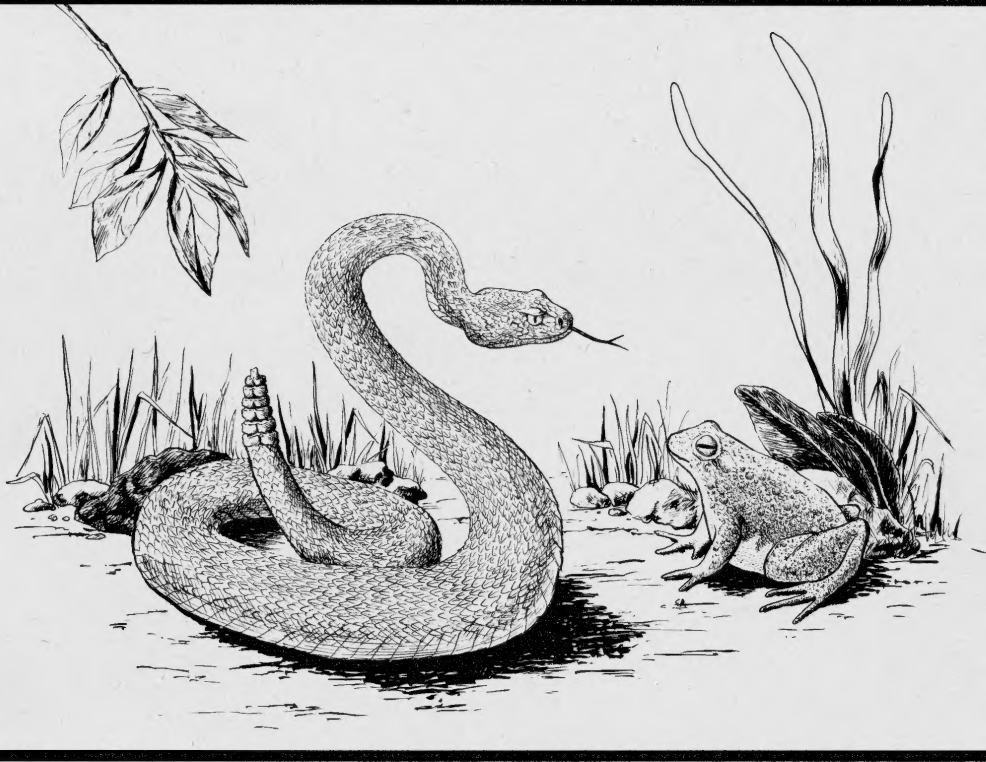


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Amphibians and Reptiles of Los Angeles County California



By JAMES R. DIXON

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LOS ANGELES, CALIFORNIA

PREFACE

This handbook is intended as a popular guide to the amphibians and reptiles of the Los Angeles area. Brief descriptions, habitat preferences, and illustrations of many of the forms are given to aid identification in the field. In addition, first aid treatment for snake bite, keys for identification to species, and a list of useful publications are given for those who wish further technical information.

The amphibians (salamanders, toads, and frogs) are not found in great abundance or variety. Their water requirements are such that there are not many places that they can live in the Los Angeles area. All of them frequent damp or moist situations where there is an abundance of vegetation.

The reptiles of Los Angeles County include many species of snakes and lizards, one species of freshwater turtle, a desert tortoise, and five species of marine turtles. While lizards are a common sight among rocks and along walls or rock fences in city yards and open country, the snakes are more secretive and less often seen.

The only poisonous snakes in Los Angeles County are rattlesnakes of three different species. No poisonous lizards are present al-

though the Gila Monster, the only poisonous lizard in the world, has been reported as having been seen in this area a number of times. It is possible that superficial observers have confused this species with our largest California lizard, the Chuckwalla, which resembles the Gila Monster only in size. The Alligator Lizard is often confused with the Gila Monster, probably because of its sluggishness and defensive nature of opening its mouth when approached. The Gila Monster, however, is only found in the desert regions of Arizona, New Mexico, and extreme eastern California.

In the description of species there has been no attempt to define the distribution of the species in the County. Their habitat preferences (associated plant communities) are given in order that the reader be familiar with the habitat where they may be found. Since 1950, many suitable habitats have been destroyed by freeways and housing tracts in the Los Angeles area. The streams have been dammed and lined with concrete for flood control. Still, some amphibians and reptiles survive in backyards, alleys, along freeways, and in city parks.

THE VEGETATION OF LOS ANGELES COUNTY

The major vegetation communities of the county are important indicators of where certain amphibians and reptiles may be found. Some species prefer to live in or around certain kinds of trees, or require a certain amount

of shade. Amphibians are generally restricted to a particular vegetation community because of specific water requirements. Some reptiles require a specific physical habitat such as rocks, boulders, or sandy soil, and are found

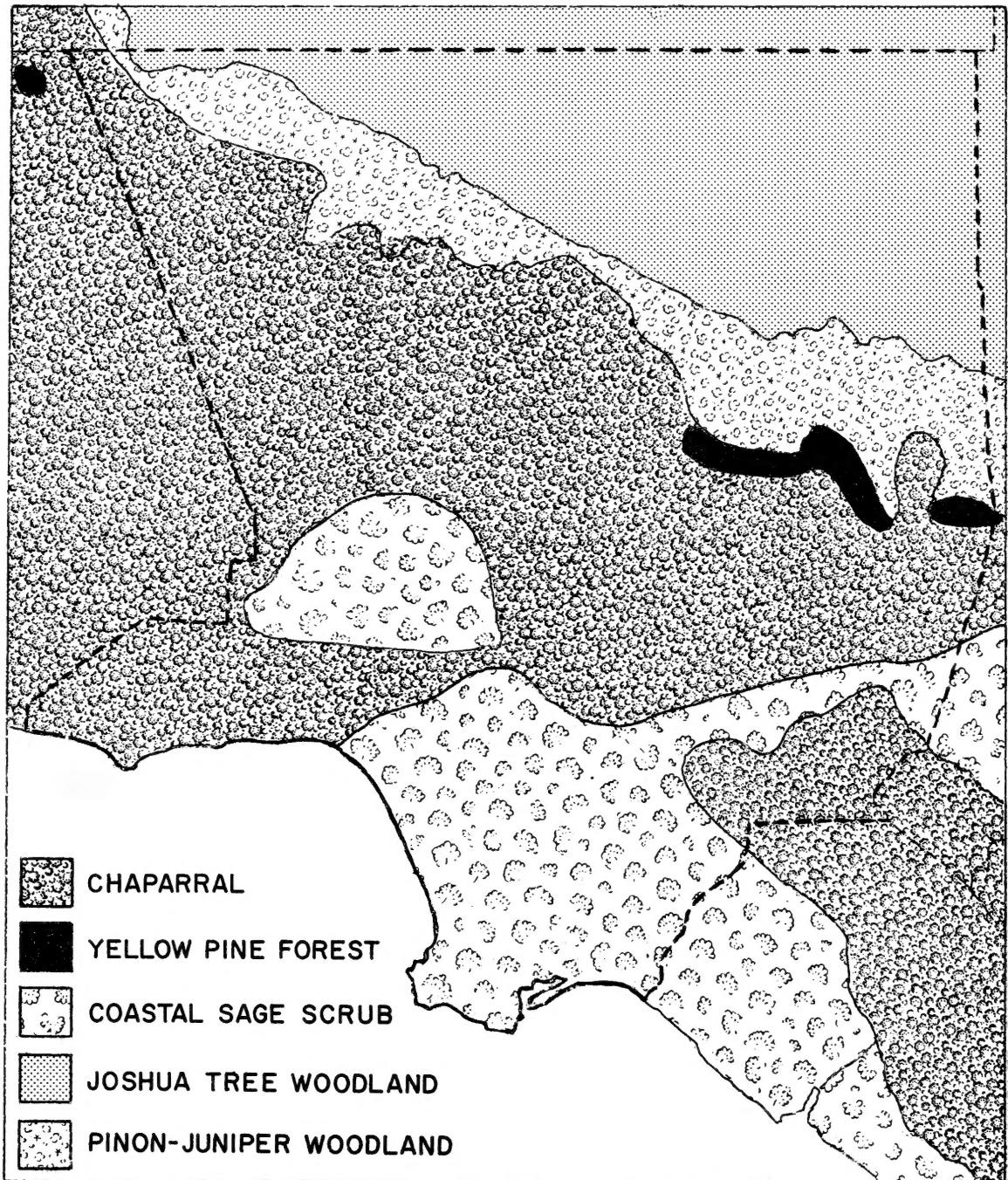


Figure 1. Vegetation map of Los Angeles County.

in the vegetation community associated with their physical requirements. All of these factors play an important role in the lives of vertebrates.

The vegetation of Los Angeles County con-

sists of six major communities: (1) Coastal Sage Scrub; (2) Chaparral; (3) Oak Woodland; (4) Yellow Pine Forest; (5) Piñon Juniper Woodland; (6) Joshua Tree Woodland (Figure 1).



Figure 2. Topography map of Los Angeles County.

The Oak Woodland community is not included in Figure 1 because of its restricted distribution to the mouths of canyons and canyon floors, to an elevation of 5,000 feet. The majority of the aquatic amphibians and some reptiles are found in the Oak Woodland community and its associated streams. The distribution of the Oak Woodland community and its amphibian and reptile inhabitants may be visualized from a map of the topography of the county (Figure 2).

The Coastal Sage Scrub community once covered most of the Los Angeles basin and the San Fernando Valley to an elevation of 3,000 feet, or below the Chaparral. The rapid increase in the human population of the area has created a greater demand for housing, freeways, and flood control, that in turn has covered or destroyed the original vegetation. A few of the city parks have maintained a portion of the original Coastal Sage Scrub, but little is left in the valley and basin.

Chaparral is the most common plant community of the county, but it is rapidly being destroyed by fire and suburban housing. Many amphibians and reptiles are found in this community, including some desert species that

filter through the canyons to the coastal side of the mountains. Chaparral is found below the Yellow Pine Forest in heavy soils.

The Yellow Pine Forest is found from 5,000 to 8,000 feet in the San Gabriel Mountains. The annual range in temperature of below freezing in winter to the low eighties in the summer limits the number of amphibians and reptiles that may occur there. Those amphibians and reptiles that have a wide tolerance for shade and temperature can be found in this community.

The Piñon Juniper Woodland is found on the desert slopes of the mountains at elevations between 5,000 and 8,000 feet. This community is dry during most of the year and generally cold in the winter. Some coastal and desert species are found together in this community.

The Joshua Tree Woodland is found at elevations of 2,500 to 4,000 feet in the Mojave Desert area of the county. This community is very dry and hot in the summer and receives some snowfall in the winter. The majority of the desert reptiles that occur in the county are restricted to this community.

FIRST AID TREATMENT FOR SNAKE BITE

The treatment of snake bites has varied over the years and until recently, there has been no concentrated effort to standardize field treatments. Mr. John Werler, Director of the Houston Zoological Gardens, has kindly permitted me to quote his first aid treatment section of his book, "Poisonous Snakes of Texas."

"It is important that every snake bite victim receive first aid treatment as soon as possible. The patient must not exert himself by running, because increased circulation brought on by such physical activity will speed up absorption of the poison. For the same reason, the use of whiskey or other stimulants should be avoided.

"The victim's state of mind is important; he must promptly be convinced that his

chances for recovery are good—and, indeed, they are. He should not be terrified by the thought that every snake bite means certain death. Actually, a survey of case histories shows that with prompt and proper treatment, only about one or two per cent of all snake bites in this country are fatal.

"There is a considerable difference of opinion about the correct first aid treatment for poisonous snake bite. The Division of Medical Sciences of the National Research Council, a section of the National Academy of Sciences, recently made a study to determine the most effective method of such treatment. It recommended immobilization of the bitten limb, application of a constricting band, and prompt incision and suction.

"Based on these recommendations, the fol-

lowing first aid treatment for poisonous snake bite is suggested:

1. **IMMOBILIZE THE AFFECTED ARM OR LEG** whenever possible. Where this is not practicable, keep movement of the bitten limb to a minimum. Muscular activity helps increase the spread of venom. Whenever feasible, transport the victim by litter to further medical aid.
2. **APPLY A CONSTRICTING BAND** from two to four inches above the bite, between the wound and the heart. This will help to limit the spread of venom until it can be removed by incision and suction or neutralized by antivenin. A piece of rubber tubing or a strap tourniquet, included with every snake bite kit, is best for this purpose. When these are not available, items of clothing may be used. A shoe lace, neckerchief or a strip of clothing torn from shirt or trousers will do. The poison, unless injected directly into a major blood vessel or deeply into a muscle, is absorbed slowly by the lymphatics below the skin. Therefore, do not restrict the deeper blood circulation by applying the constricting band too tightly. It should be loose enough for a finger to be slipped under it with little difficulty. Remember that during first aid treatment the constricting band must be loosened every 15 minutes for about two minutes. This precaution may prevent gangrene. If the bite is on the hand or forearm, take off rings, bracelets or other jewelry because subsequent swelling may make their removal difficult.
3. **MAKE INCISIONS** after sterilizing the cutting instrument and the bite area with iodine or alcohol. If no antiseptic is available, the blade of the cutting instrument can be sterilized by holding it over a flame (a match will do). Make *one* cut over each fang mark parallel with the long axis of the bitten limb, not across it. Incisions should be one-eighth to one-quarter inch deep, but definitely no longer than the diameter of the suction apparatus being used. This would allow air to enter the suction bulb from the outside and the device would then

be unable to work. Incisions are of the utmost importance to first aid treatment; without them little or no poison can be withdrawn from the wound by suction. However, making even a small incision involves some risk and this operation should be done with considerable care. Improper or carelessly applied first aid may actually do more harm than good. Although a physician may later decide to make additional incisions to relieve the pressure of swelling, only the cuts over the fang marks are recommended for first aid.

4. **APPLY SUCTION** to the cuts. This can best be done with one of the suction devices manufactured for that purpose but if none is available, suction can be applied by mouth. There is little danger in oral suction unless the lips or inside of the mouth have cuts or abrasions. Contrary to popular opinion, a tooth cavity will not permit passage of venom into the blood. Moreover, snake venom is destroyed by the stomach's digestive juices, so if some is accidentally swallowed, there is little need to worry if you have a healthy system. Only during the first 30 minutes following the bite can much venom be removed by incision and suction.
5. **GET TO MEDICAL AID** as soon as possible—but keep in mind that unnecessary physical exertion is harmful.

“Antivenin may be administered soon after first aid has been started, but this is best left to a doctor. The North American Antisnakebite Serum made by Wyeth, Inc., of Philadelphia 3, Pennsylvania, is effective against pit viper bites but is of less value in the treatment of coral snake poisoning. Because coral snakes cause so few bites in the United States, no serum to neutralize their venom is prepared in this country. In South America, where these snakes are common and may reach a length of five feet, a serum to neutralize the poison is being produced by the Instituto Butantan at Sao Paulo, Brazil. It and other foreign snake bite serums often are available at larger zoos where exotic poisonous species are exhibited.”

If you should be bitten by a poisonous snake in the Los Angeles area, proper treatment may be obtained through Dr. Finley Russell, Los Angeles County General Hospital, who is an expert physician on snake bite

treatment and poisonous insect bites and stings. He may be reached by telephone: 225-3115, extension 2801; or through the Los Angeles County Poison Control Center: NOrmandy 4-2121.

GENERAL DIRECTIONS FOR COLLECTING AND PRESERVING AMPHIBIANS AND REPTILES

COLLECTING. It is not difficult to collect these animals and special precautions are unnecessary, except in the case of venomous species. If you are not familiar with poisonous snakes, **DO NOT**, under any circumstances, attempt to collect one alive. Even the well trained, professional herpetologists are occasionally bitten.

Useful "containers" for live specimens in the field are sacks made of substantial cloth. You should carry several sizes of sacks, and do not mix amphibians with reptiles. (Know the habits of your specimens, many snakes are cannibalistic.) Amphibians need moisture; keep damp leaves or humus in the sack and be sure the sack is kept moist. Larval stages, such as tadpoles, should be placed in water in glass or plastic containers.

Be sure to provide a means of tying shut the mouth of the sack. Many collectors find it convenient to use sacks long enough to allow twisting the end and tying a knot in the sack.

PRESERVING. Live specimens should be dropped into 20% to 40% ethyl alcohol; this will kill the specimen in a relaxed condition. Attach a label to the specimen immediately after killing (see below for labeling directions). Place the dead specimens in a shallow pan and, after putting them in position, cover with 10% formalin (1 part of commercial (40%) formaldehyde and 9 parts of water). Leave the specimen in the formalin for several days to one week and then transfer to either 5% formalin or 65% alcohol. Small to average sized salamanders should be fixed in a straight position; larger salamanders coiled or at least bent double; frogs and toads in a natural sitting position; lizards straight, with

long tails curved front along the body; snakes should be coiled.

If formalin is used as the final preservative it is advisable to add a teaspoon of sodium borate (household borax) per quart of formalin. This serves to buffer the formalin and prevents it from decalcifying the bone.

Formalin will corrode metal; for best results use glass jars with rubber gaskets. Do not let formalin onto mucus membranes of eyes, nose, or mouth. Do not breathe formalin fumes. Wash hands and instruments thoroughly after using formalin.

Reptiles and medium to large amphibians must be slit along the belly and tail at intervals to allow the preservative to enter the body cavity and properly preserve the internal organs.

DATA. It is important to have accurate information for each specimen. Collection data should be recorded in two places: on the specimen label and in your personal book of field records.

The specimen tag. The tag must be strong and of the type that will not be softened by fluids. Tags may be purchased from the General Biological Supply House, Inc., 8200 South Hoyne Ave., Chicago, Illinois, 60620.

1. Punch two small holes, near one end, just large enough to receive no. 8 white, cotton thread.
2. Attach an 8-inch thread to the tag as indicated in Figure 3.
3. Tie tag to specimen and cut off extra thread.

4. Tags should be tied just in front of the hind legs of amphibians, the right hind leg of lizards, and just in back of the hinges of the jaws of snakes. In many cases it is best to sew the strings of the tag through the skin of snakes and long salamanders.
5. Using Higgins Eternal Black ink or Pelikan waterproof drawing ink, prepare a tag for each specimen as shown right:

<i>Collector's name</i>	<i>Your catalog number</i>
<i>(Locality)</i>	<i>(State and County included)</i>
<i>(Date)</i>	

Put the scientific name on the back of the tag. Your catalog number will appear on the tag and in your field book and catalog.

Your catalog should appear as follows:

<i>Your Name</i>	<i>Year</i>
	Locality, habitat, state, date other information
1	SCIENTIFIC NAME
2	SCIENTIFIC NAME
3	SCIENTIFIC NAME
	Locality, habitat, state, date other information
4	SCIENTIFIC NAME
ditto	ditto

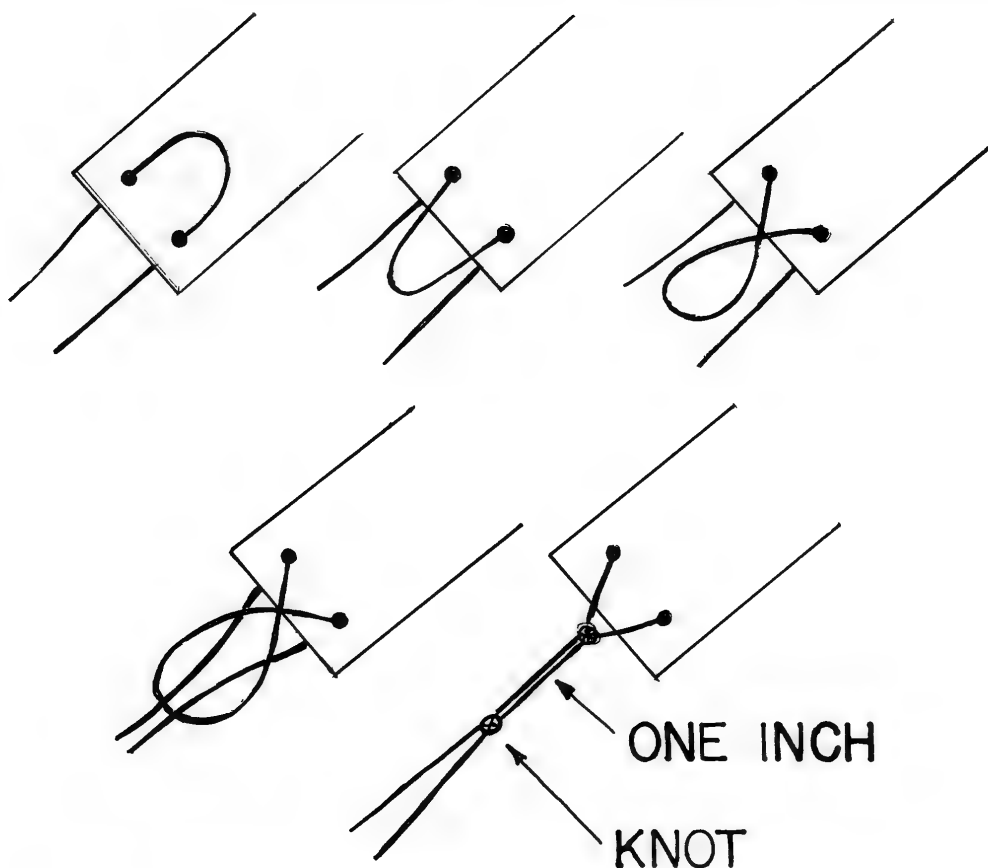


Figure 3. Diagrammatic illustration of a method used for tying field tags.

KEYS

The keys to the amphibians and reptiles of the Los Angeles area are preceded by illustrations (figures 4 through 10) that supple-

ment the characters used in the couplets of the keys. Figure 4 illustrates the salamander key; figure 5 for frogs and toads; figure 6 for

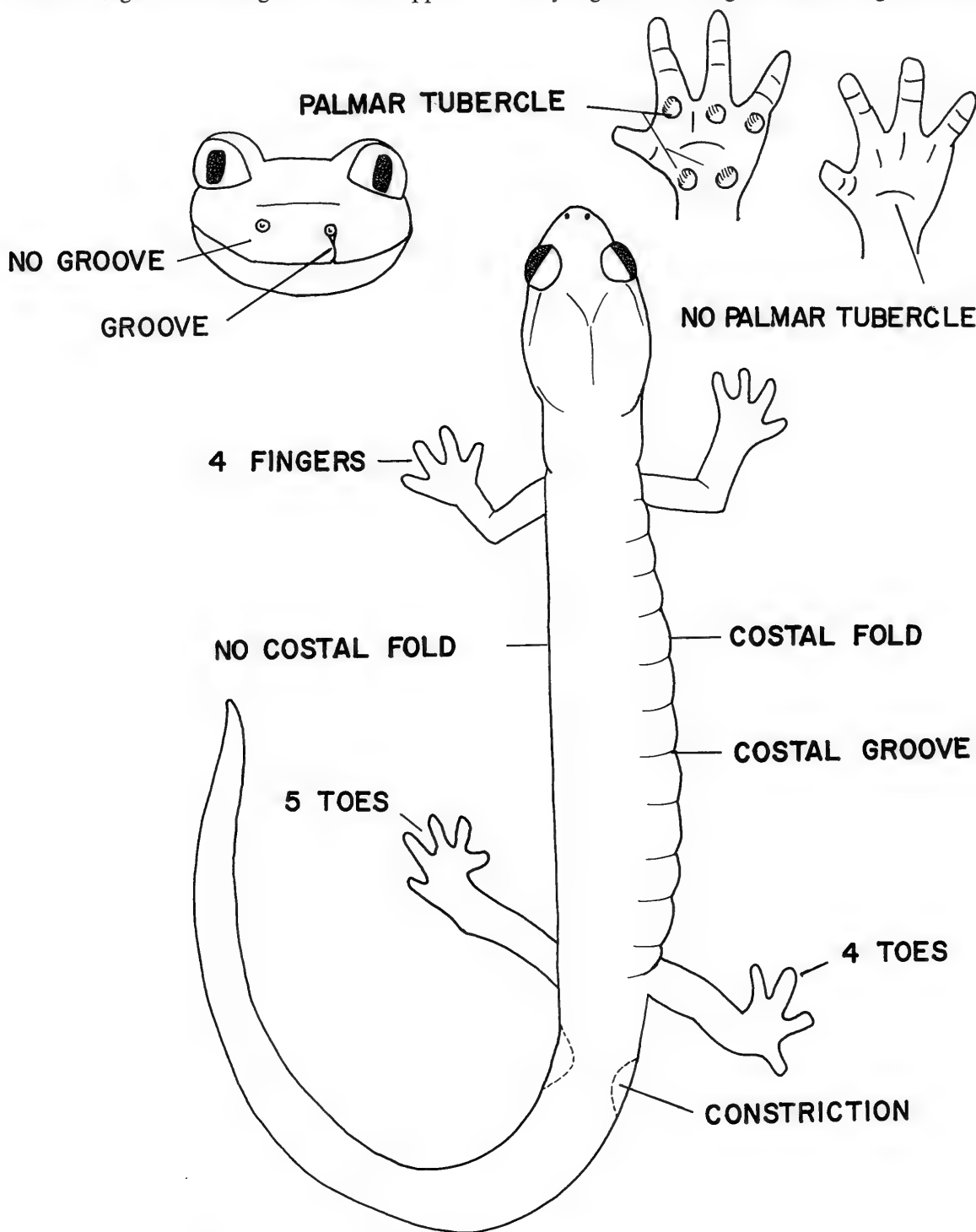


Figure 4. Diagrammatic illustration of some salamander characters.

sea turtles; figures 7, 8, and 9 for lizards; figure 10 for snakes. For characters in the keys that are difficult to define, resort to the illus-

trations or photographs of the species in question.

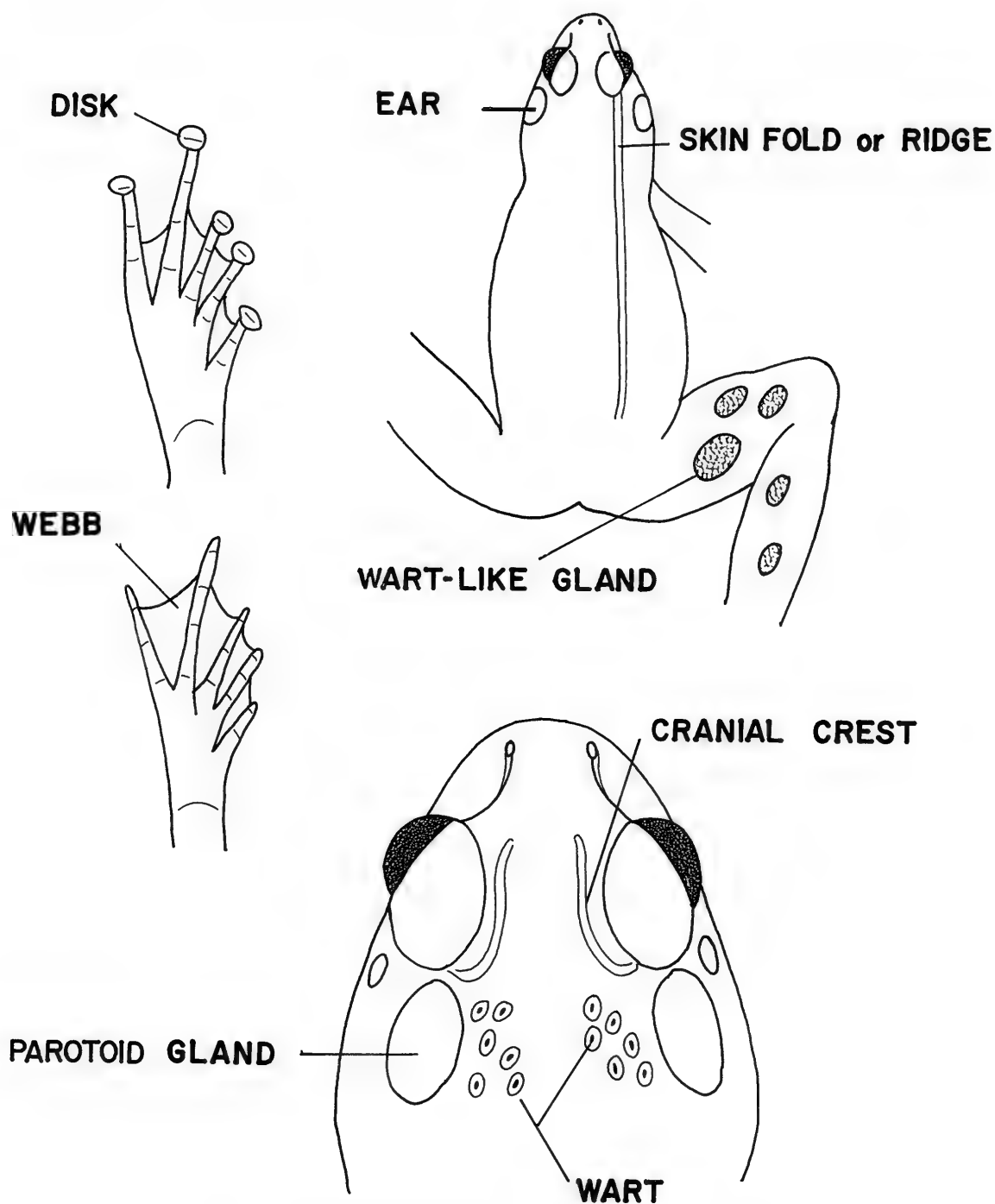


Figure 5. Diagrammatic illustration of some anuran characters.

A KEY TO THE ADULT AMPHIBIANS OF LOS ANGELES COUNTY

- 1a. A well developed tail
present SALAMANDERS
- 1b. Tail absent FROGS and TOADS

SALAMANDERS

- 1a. A groove extending from nostril
to edge of upper lip 2
- 1b. No groove . . California Newt
(*Taricha torosa*)
- 2a. Fingers 4, toes 4 3
- 2b. Fingers 4, toes 5 4
- 3a. Underside of tail dark brown or black
. Slender Salamander
(*Batrachoseps attenuatus*)
- 3b. Underside of tail grey or light brown
. Worm Salamander
(*Batrachoseps pacificus*)
- 4a. Tubercles in palm of hand, tail con-
stricted near base . . Arboreal Salamander
(*Aneides lugubris*)
- 4b. No tubercles in palm of hand, tail not
constricted near base . . Red Salamander
(*Ensatina eschscholtzi*)

FROGS AND TOADS

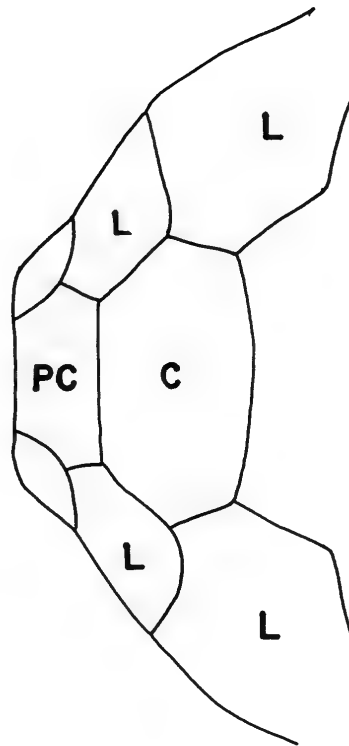
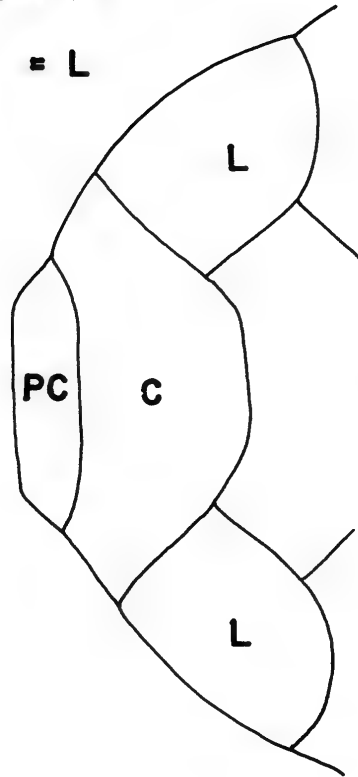
- 1a. Pupil of eye round or horizontally
elliptical 2
- 1b. Pupil of eye vertically elliptical
Western Spadefoot (*Scaphiopus
hammondi*)
- 2a. No well developed adhesive disks on
fingers and toes 3
- 2b. Well developed adhesive disks on
fingers and toes 5
- 3a. An enlarged pair of parotid glands . 4
- 3b. No parotid glands 6
- 4a. One to several greatly enlarged wart-
like glands on the dorsal surface of
leg . . . California Toad (*Bufo boreas*)

- 4b. No greatly enlarged wart-like glands
on dorsal surface of leg . . Arroyo Toad
(*Bufo microscaphus*)
- 5a. A dark eye-mask always present,
toes webbed at base, but not to tip
of toe . Pacific Tree Frog (*Hyla regilla*)
- 5b. No eye-mask, toes webbed almost to
tip of toe . California Canyon Tree Frog
(*Hyla californiae*)
- 6a. A pair of well developed skin folds
along back extending from behind
eye to hind leg 7
- 6b. Skin folds of back obscure, broken,
or completely absent, not extending
to hind leg 8
- 7a. Dorsal dark spots large, well defined
and outlined by a light line; no eye-
mask; dorsal skin folds conspicuous,
usually light colored and contrasting
with ground color Leopard Frog
(*Rana pipiens*)
- 7b. Dorsal dark spots irregular and not
outlined by a light color; a distinct
eye-mask; dorsal skin folds not con-
spicuous, same color as ground
color . Red-legged Frog (*Rana aurora*)
- 8a. Ear conspicuous, colored differently
than rest of head, skin covering of
ear smooth Bull Frog
(*Rana catesbeiana*)
- 8b. Ear not conspicuous, colored simi-
larly to rest of head, skin covering of
ear usually tuberculate 9
- 9a. Dorsal pattern a complex mottling
of irregular dark and light areas, or
uniform; tips of toes very dark, con-
trasting with lighter coloration of
rest of toe; no light band between
eyes . . Speckled Frog (*Rana muscosa*)
- 9b. Dorsal pattern composed of obscure
dark spots; tips of toes not much
darker than rest of toe; an obscure
light band between the eyes
. . . Yellow-legged Frog (*Rana boylei*)

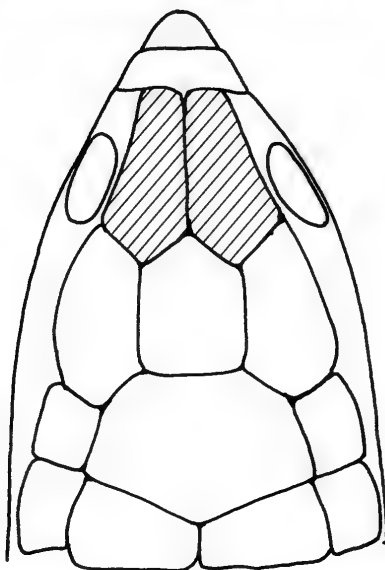
CENTRAL = C

PRECENTRAL = PC

LATERAL = L



1 PR. PREFRONTAL PLATES



2 PR. PREFRONTAL PLATES

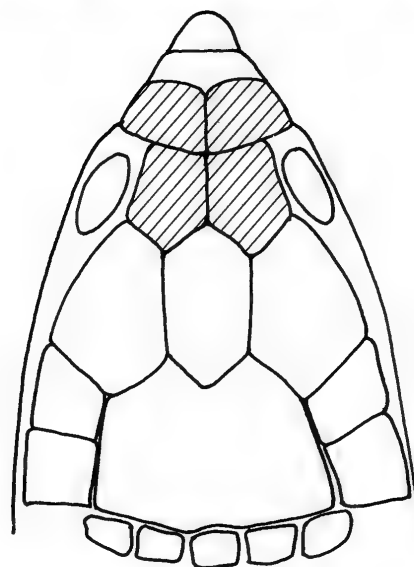


Figure 6. Diagrammatic illustration of some sea turtle characters.

A KEY TO THE REPTILES OF LOS ANGELES COUNTY

- 1a. Body encased in a rigid, usually bony shell TURTLES
- 1b. Body not encased in a rigid bony shell SNAKES and LIZARDS

TURTLES

- 1a. Shell covered with large horny plates 2
- 1b. Shell covered with smooth undivided skin, or 7 small longitudinal rows of scales present with the skin covering . . . Pacific Leatherback Sea Turtle (*Dermochelys coriacea*)
- 2a. Limbs not paddle shaped 3
- 2b. Limbs paddle-shaped 4
- 3a. Top of head covered anteriorly by smooth, undivided skin; hind feet not elephantine; toes webbed at base Pacific Pond Turtle (*Clemmys marmorata*)
- 3b. Top of head covered anteriorly by small shields; hind feet elephantine;

toes not webbed Desert Tortoise (*Gopherus agassizi*)

- 4a. Two pair of prefrontal plates 5
- 4b. One pair of prefrontal plates
.. Green Sea Turtle (*Chelonia mydas*)
- 5a. Laterals touching precentral plate 6
- 5b. Laterals not touching precentral plate Hawksbill Sea Turtle (*Eretmochelys imbricata*)
- 6a. Shell circular in outline; colored gray to olive green . . . Ridley Sea Turtle (*Lepidochelys olivacea*)
- 6b. Shell oval in outline; colored brown to reddish brown Loggerhead Sea Turtle (*Caretta caretta*)

LIZARDS AND SNAKES

- 1a. Movable eyelids, limbs or external ear openings present LIZARDS
- 1b. No movable eyelids, no limbs or external ear openings SNAKES

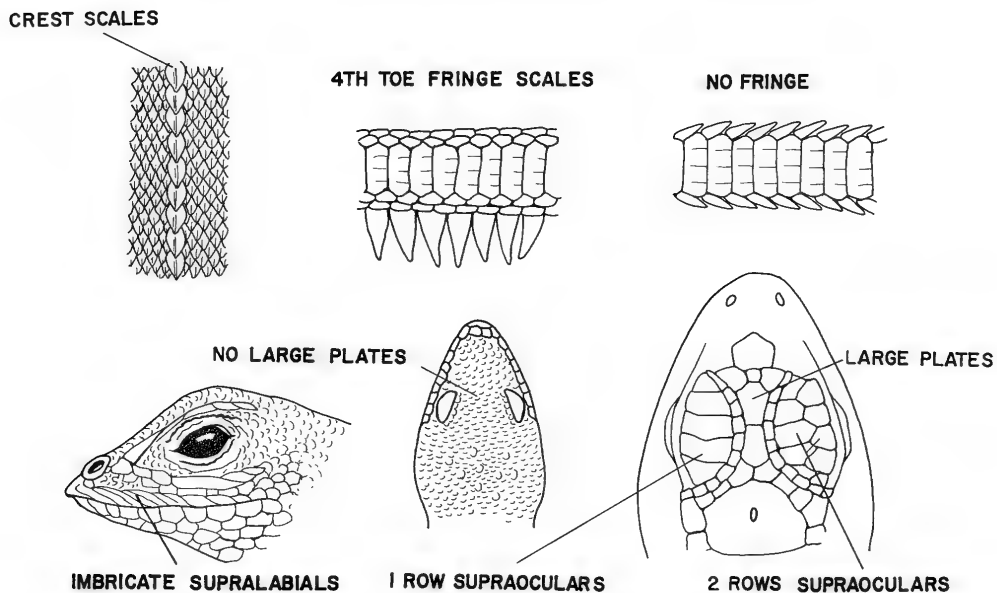


Figure 7. Diagrammatic illustration of some lizard characters.

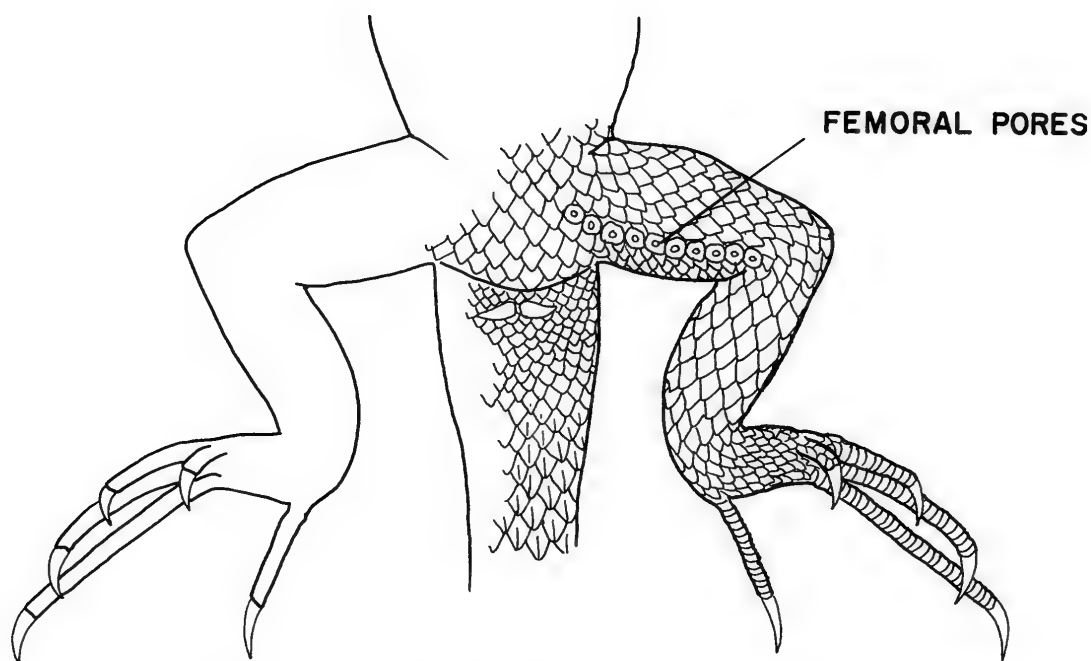
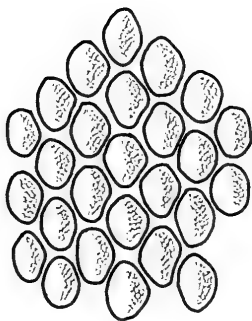


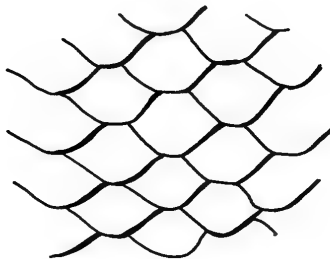
Figure 8. Diagrammatic illustration of some lizard characters.

LIZARDS

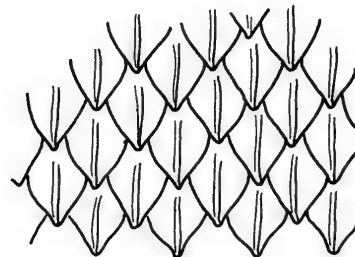
- | | | | |
|--|--|---|----|
| 1a. Limbs present. | 2 | 4b. Two rows of supraoculars. | |
| 1b. No limbs. | Silvery Legless Lizard | San Clemente Night Lizard | |
| | (<i>Anniella pulchra</i>) | (<i>Klauberina riversiana</i>) | |
| 2a. Pupil of eye vertically elliptical. . . . | 3 | 5a. A series of femoral pores present. . . | 6 |
| 2b. Pupil of eye round. | 5 | 5b. No femoral pores. | 18 |
| 3a. Large plates on top of head between eyes | 4 | 6a. Scales on belly small and rounded, not arranged into definite longitudinal series | 7 |
| 3b. No such plates. | Banded Gecko | 6b. Scales on belly large and rectangular, arranged into definite longitudinal series . . . | |
| | (<i>Coleonyx variegatus</i>) | Coastal Whip-tail Lizard | |
| 4a. One row of supraoculars. . . | Yucca Night Lizard (<i>Xantusia vigilis</i>) | (<i>Cnemidophorus tigris</i>) | |



GRANULAR SCALES



SMOOTH SCALES



KEELED SCALES

Figure 9. Diagrammatic illustration of some lizard characters.

- 7a. No crest of enlarged scales arranged in a single row down middle of back 8
- 7b. A crest of enlarged scales arranged in a single row down middle of back
Desert Iguana (*Dipsosaurus dorsalis*)
- 8a. No spines on back of head 9
- 8b. Spines on back of head 17
- 9a. A large plate on end of snout 10
- 9b. No large plate
.Chuckwalla (*Sauromalus obesus*)
- 10a. Supralabials imbricate 11
- 10b. Supralabials not imbricate 12
- 11a. A fringe of movable spines on one side of fourth toe of hind foot . . .
. . .Mojave Sand Lizard (*Uma scoparia*)
- 11b. No movable spines on fourth toe of hind footZebra-tailed Lizard
(*Callisaurus draconoides*)
- 12a. All scales on top of head smaller than ear opening 13
- 12b. Some scales on top of head as large or larger than ear opening 14
- 13a. One or two black bars across shoulder region . . .Western Collared Lizard
(*Crotaphytus collaris*)
- 13b. No black bars across shoulders . . .
.Leopard Lizard
(*Crotaphytus wislizeni*)
- 14a. A transverse fold of skin across throat just anterior to shoulder regionSide Blotch Lizard
(*Uta stansburiana*)
- 14b. No transverse fold across throat . . . 15
- 15a. Supraocular scales completely separated from other enlarged head scales by a row or two rows of small scales 16
- 15b. Supraocular scales not completely separated from other large head scalesDesert Spiny Lizard
(*Sceloporus magister*)
- 16a. Scales on rear of thigh large, keeled, and imbricate . . .Western Fence Lizard
(*Sceloporus occidentalis*)
- 16b. Scales on rear of thigh small, smooth, granular, not imbricate . . .
.Southern Sagebrush Lizard
(*Sceloporus graciosus*)
- 17a. Lateral belly scales in two fringe-like rows; four or more longitudinal rows of enlarged scales on throat . .
.San Diego Horned Lizard
(*Phrynosoma coronatum*)
- 17b. Lateral belly scales in one fringe-like row; two longitudinal rows of enlarged scales on throat
.Desert Horned Lizard
(*Phrynosoma platyrhinos*)
- 18a. Scales on back smooth 19
- 18b. Scales on back KeeledAlligator Lizard
(*Gerrhonotus multicarinatus*)
- 19a. Uniform olive above or, if striped, tail with reddish areas, usually eight scales on upper lip
.Gilbert's Skink (*Eumeces gilberti*)
- 19b. Body with light colored stripes, tail always blue, never reddish, usually seven scales on upper lip
Western Skink (*Eumeces skiltonianus*)

SNAKES

- 1a. Scales on belly larger than those on the back 2
- 1b. Scales on belly same size as those on backWestern Worm Snake
(*Leptotyphlops humilis*)
- 2a. A rattle on tail; a pit between the eye and nostril 18
- 2b. No rattle or pit 3
- 3a. One or two pairs of elongate chin shields on chin 4
- 3b. No elongate chin shieldsCalifornia Rosy Boa (*Lichanura roseofusca*)
- 4a. Scales on back all smooth 5
- 4b. Scales on back all or partly keeled . . 16
- 5a. Anal plate entire 6
- 5b. Anal plate divided 10
- 6a. Scales below tail in two series 7

- 6b. Scales below tail in one series
 Long-nosed Snake
 (*Rhinocheilus lecontei*)
- 7a. A single loreal scale 8
- 7b. Two or more loreal scales
 California Lyre Snake
 (*Trimorphodon vandenburghi*)
- 8a. Belly with some dark markings 9
- 8b. Belly without markings . . Glossy Snake
 (*Arizona elegans*)
- 9a. First few scales of upper lip light colored, although often edged with dark California King Snake
 (*Lampropeltis getulus*)
- 9b. First few scales of upper lip all black
 Mountain King Snake
 (*Lampropeltis zonata*)
- 10a. Three or more scales in series between eye and nostril 11
- 10b. Two scales in series between eye and nostril . . California Black-headed Snake
 (*Tantilla planiceps*)
- 11a. Scale on end of snout not greatly enlarged or free at edges 12
- 11b. Scale on end of snout greatly enlarged and free at edges . . . Patch-nosed Snake (*Salvadora hexalepis*)
- 12a. One anterior temporal scale 13
- 12b. Two or three anterior temporal scales 14
- 13a. Dorsal pattern of dark blotches on lighter ground color
 Spotted Night Snake
 (*Hypsiglena ochrorhyncha*)
- 13b. Dorsal pattern uniform color, usually with a ring of light color around neck; tail reddish below
 Ring-necked Snake
 (*Diadophis punctatus*)
- 14a. No light stripes down either side of back 15
- 14b. One pair of light stripes down back
 California Striped Racer
 (*Masticophis lateralis*)
- 15a. Less than 15 rows of scales around body, counted one head length in front of anus . . . California Red Racer
 (*Masticophis flagellum*)

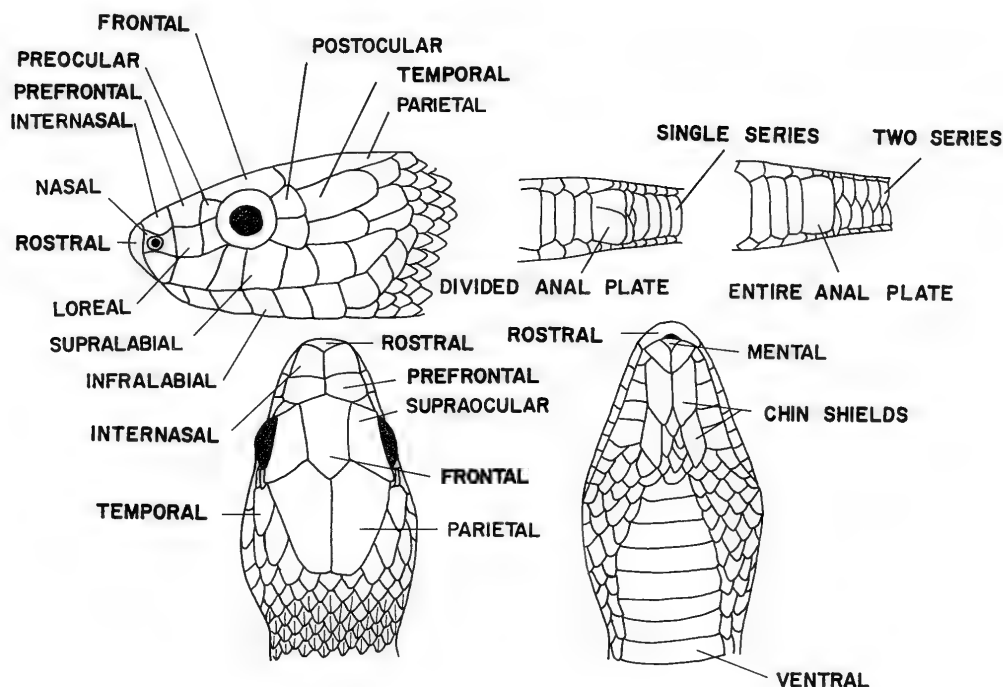


Figure 10. Diagrammatic illustration of some snake characters.

- 15b. 15 rows of scales around body, counted one head length in front of the anus Yellow-bellied Racer
(*Coluber constrictor*)
- 16a. Less than 29 rows of scales around body, counted at middle of body; pattern usually of stripes 17
- 16b. 29 or more rows of scales around middle of body; pattern of blotches Gopher Snake
(*Pituophis melanoleucas*)
- 17a. A well developed mid-dorsal light stripe Red-sided Garter Snake
(*Thamnophis sirtalis*)
- 17b. No well developed mid-dorsal light stripe; pair of stripes on sides Two-striped Garter Snake
(*Thamnophis couchi*)
- 18a. Outer edge of scales over eye not raised into horn-like process 19
- 18b. Outer edge of scales over eye with a horn-like process Sidewinder Rattlesnake
(*Crotalus cerastes*)
- 19a. Tail coloration of alternating dark and light rings; contrasting sharply with color pattern of body Mojave Rattlesnake
(*Crotalus scutulatus*)
- 19b. Tail coloration not of alternating dark and light rings contrasting sharply with body coloration and pattern Pacific Prairie Rattlesnake
(*Crotalus viridis*)

Salamanders

(*Order Caudata*)



CALIFORNIA NEWT, *Taricha torosa*

(photograph courtesy of San Diego Zoo)

CALIFORNIA NEWT (*Taricha torosa*). This is one of our most common salamanders of the Oak-woodland community. It prefers the canyon bottoms where considerable moisture is available.

Newts are easily recognized by their dark yellowish brown to reddish brown color, granular skin without costal folds or grooves, and the absence of a groove from the nostril to the upper lip.

Adults attain a length of 7 to 8 inches. They usually congregate in shallow streams and

canyon pools from late January through June for breeding. The eggs are usually laid in a gelatinous-like clump, about 7 to 29 eggs per clump. Incubation varies from 18 to 52 days, usually dependent upon water temperatures. The larvae are about one-half inch at hatching and attain a length of about 2 and one-half inches by the time of metamorphoses.

Food consists of earthworms, small aquatic insects and their larvae, snails, slugs, and many forms of land insects and their larvae.



ARBOREAL SALAMANDER, *Aneides lugubris*

(photograph courtesy of San Diego Zoo)

ARBOREAL SALAMANDER (*Aneides lugubris*). This salamander frequents damp or water filled holes in trees, under rocks, boards, bark,

rotting logs, rodent burrows, and mine shafts in the Oak woodland community of our area.

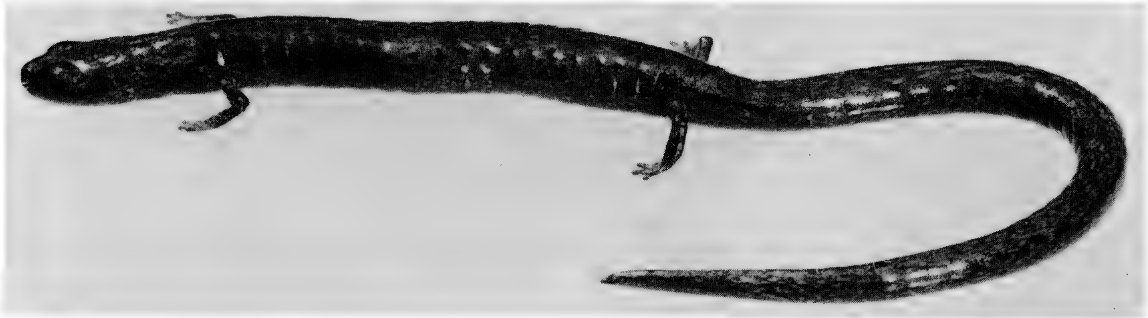
Arboreal salamanders are brown to reddish

brown with yellowish spots scattered over the back, but usually concentrated along the sides of the body. The belly is whitish or gray with the underside of the tail yellowish. There are about 15 costal grooves, toe tips are blunt and widened, and the tail somewhat prehensile.

Adults are about 4 to 7 inches in length. Reproduction occurs from July through September. The eggs number 12 to 18 and are usually found deposited in a cluster under

boards, rocks, rotting logs, or in tree cavities. The eggs are often found hanging from the wall or roof of the cavity. Incubation ranges from 30 to 60 days. At hatching, the young measure about one to one and one-fourth inches.

Food consists of beetles, spiders, sowbugs, caterpillars, ants, centipedes, and occasionally other salamanders.



SLENDER SALAMANDER, *Batrachoseps attenuatus*

(photograph by Mike Hatchimonji)

SLENDER SALAMANDER (*Batrachoseps attenuatus*). This salamander is abundant in and around moist situations in the oak woodland and coastal sage scrub communities of the area. They are often found beneath boards, rocks, and logs.

Slender salamanders are closely related to the Worm salamander, and are distinguished from the latter only by the dark brown or black color of the undersurface of the tail. Its general appearance is usually dark brown to black, the belly and tail dark brown with minute white spots intermixed. The costal grooves number about 19, the tail is extremely long, and the general physical appearance is worm-like.

Adults are about 4 to 5 inches in length. They are generally inactive during the dry part of the year and remain hidden in the ground until the first rains occur. The breeding season begins with the first rains, usually October through December. The number of eggs varies from 4 to 21. The incubation period is quite variable, depending upon periods of winter frost and freezing nights, incubation may be as long as 150 days; or with periods of warmth during the winter, may be

as short as 60 days. Young are about five-eighths of an inch long at hatching.

Food items are earthworms, sowbugs, millipedes, and many forms of insect larvae and adults.

WORM SALAMANDERS (*Batrachoseps pacificus*). Similar in habits and habitat to the slender salamander, the worm salamander is usually found associated with the slender salamander at lower elevations of oak woodland and coastal sage scrub communities of our area. Worm salamanders are generally found at lower elevations (to sea level) while slender salamanders occur at higher elevations to the exclusion of worm salamanders.

Worm salamanders differ from slender salamanders in having a light yellowish brown belly color and yellowish color beneath the tail, lacking the distinct whitish spots found in the slender salamander. The costal grooves number about 19 and the general appearance is worm-like.

Adults attain a length of 5 to 7 inches. Their breeding behavior is similar to the slender salamander. The number of eggs is variable, probably 15 to 25.



WORM SALAMANDER, *Batrachoseps pacificus*

(photograph courtesy of San Diego Zoo)

Food consists of earthworms, sowbugs, slugs, and insects and their larvae.

RED SALAMANDER (*Ensatina eschscholtzi*). The red salamander occurs in all vegetation communities of the area except joshua tree and pinon-juniper. They are often found in damp situations that contain a fair amount of leaf litter. They may also be found under

boards, rocks, rotten logs, and in root crevices and rodent burrows.

There are several color phases of this salamander in California. The local form usually has a reddish brown back, white belly, with whitish spots occasionally scattered over the back. The eyes are black, two tubercles in the palm of the hand, costal grooves about 12, and adults are about 3 to 6 inches in length.



RED SALAMANDER, *Ensatina eschscholtzi*

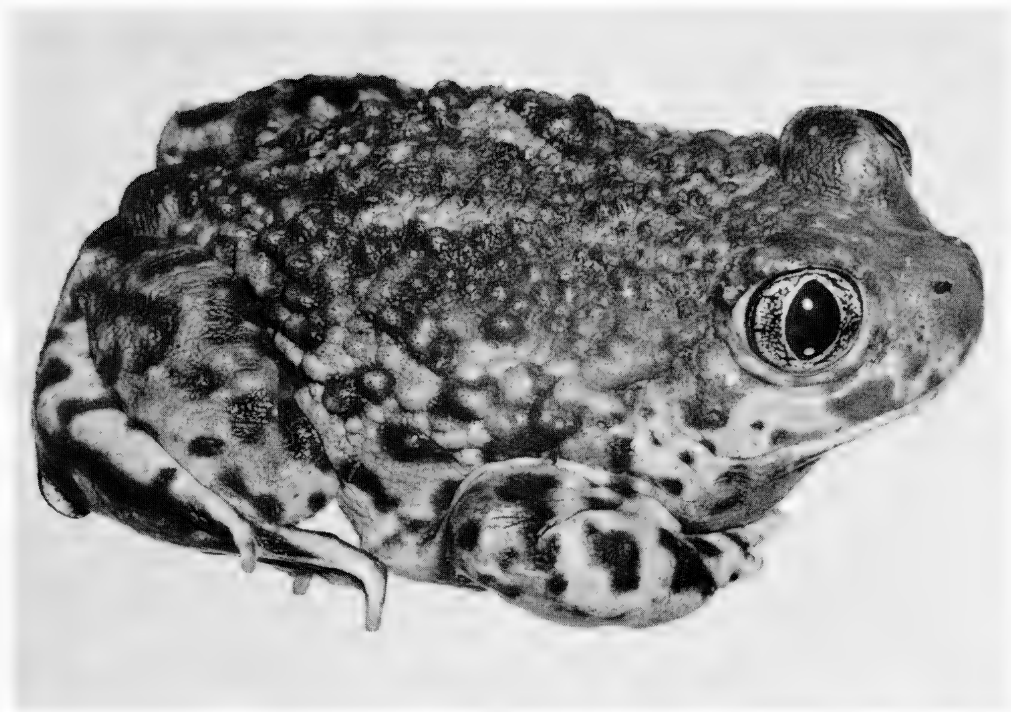
(photograph courtesy of San Diego Zoo)

Breeding usually occurs in late fall to early spring, (November through March) and incubation is estimated to be 120 to 150 days, depending upon moisture and temperature. The number of eggs varies from 8 to 16, with 12 to 14 being the common number.

Food consists of ants, termites, ticks, mites, flies, crickets, snails, spiders, sowbugs, millipedes, centipedes, earthworms, and all kinds of insect larvae.

Frogs and Toads

(*Order Salientia*)



(photograph courtesy of San Diego Zoo)

WESTERN SPADEFOOT TOAD, *Scaphiopus hammondi*

WESTERN SPADEFOOT TOAD (*Scaphiopus hammondi*). This toad is about 2 to 3 inches in length and has a relatively smooth skin, moist to the touch, with small soft tubercles (warts) scattered along either side of the back. A large black, horny "spade" is present on the underside of the hind foot. The body color is usually olive green to yellowish gray and the belly white. The eyes are large and protruding, the pupil vertically elliptical.

These toads spend about 90 per cent of their lives underground. They appear after heavy rains in ponds and road side ditches, mostly in the coastal sage scrub community of the county. Elsewhere they occur in desert and semidesert areas at moderate elevations.

CALIFORNIA TOAD (*Bufo boreas*). The California toad is found in all vegetation communities of the county, ranging from sea level to 8,000 feet. This toad is about 3 to 5 inches in length, with a very warty appearance to the skin. A brownish black horny spade is present on the sole of the hind foot. Bony crests are absent between the eyes and along the rear of the head; two large oval glands are present

behind the eyes along either side of the head; dorsal coloration usually greenish or brownish with the warts outlined with darker brown; a yellowish stripe down the middle of the back; the belly dirty white to yellowish.

This toad is commonly found in gardens and flower beds in the cities, hiding under vegetation during the day and coming out to feed at night. In open country it is often found in valleys and meadows associated with lakes, ponds, and streams. The California toad breeds in the latter areas during the rainy season, laying long strings of eggs that hatch into tadpoles in a short period of time.

ARROYO TOAD (*Bufo microscaphus*). The arroyo toad is found in the oak woodland and coastal sage scrub communities, generally in the bottom of arroyos and canyon bottoms. This toad is smaller than the California toad, only averaging about 2 to 3 inches in length.

Like the California toad, it lays long strings of eggs, but usually deposits them in pools or backwater of arroyos and canyon bottoms. The dorsal color of this toad is highly variable, ranging from greenish gray to reddish



CALIFORNIA TOAD, *Bufo boreas*

(photograph courtesy of San Diego Zoo)

brown. The bony crests found between the eyes are low, ill-defined, and sometimes absent. The glands that lie behind the eyes on either side of the head are elongate, longer than those of the California toad. The belly is

dirty white to yellowish orange. The “spade” of the hind foot is usually darker than that of the California toad, and the skin is not as warty.

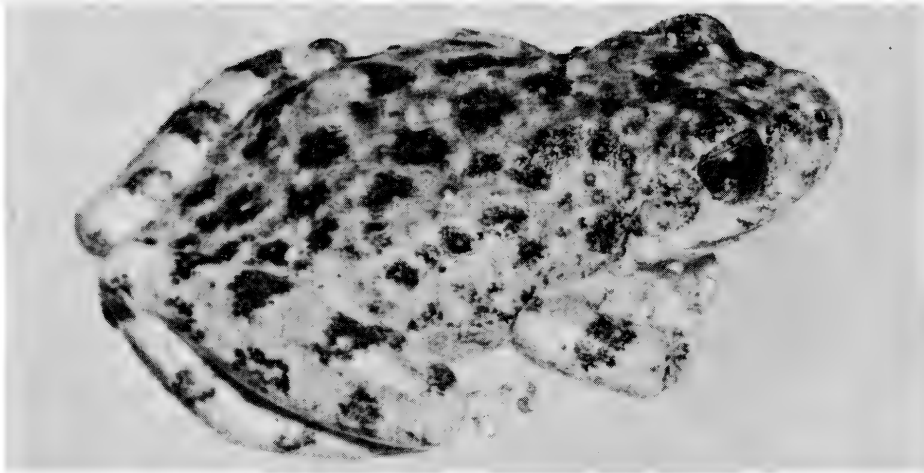


ARROYO TOAD, *Bufo microscaphus*

(photograph by Mike Hatchimonji)

CALIFORNIA CANYON TREE FROG (*Hyla californiae*). A small frog about 2 inches in length that inhabits arroyos and canyon bottoms

where rocks and boulders are plentiful, principally in the oak woodland community. They lay their eggs in the quiet water of streams,



(photograph courtesy of San Diego Zoo)

CALIFORNIA CANYON TREE FROG, *Hyla californiae*

usually as single eggs or sometimes in a clump and attached to debris of the stream bottom.

The back is somewhat warty, though the warts are small and often obscure. The toes are webbed, with large disks at the tip of each toe. The color of the back varies from light gray to dark brown with some spotting of darker color. The belly is white to yellowish with the groin and thighs with brighter colors of yellow and sometimes orange.

PACIFIC TREE FROG (*Hyla regilla*). The Pacific tree frog is common in all vegetation communities of the county during the rainy season. It is found associated with all bodies of water, including drainage ditches, culverts, springs, pot holes, rodent burrows, cracks in old buildings, and irrigation canals.

The Pacific tree frog differs from the California tree frog by having a dark brown to black "mask" from the nostril through the eye to above the arm, usually bordered below by a white stripe of the same length. Adults are usually less than 2 inches in length and are more slender than the California tree frog. The color of the back is usually green to brown, with darker elongate spots scattered over the back.

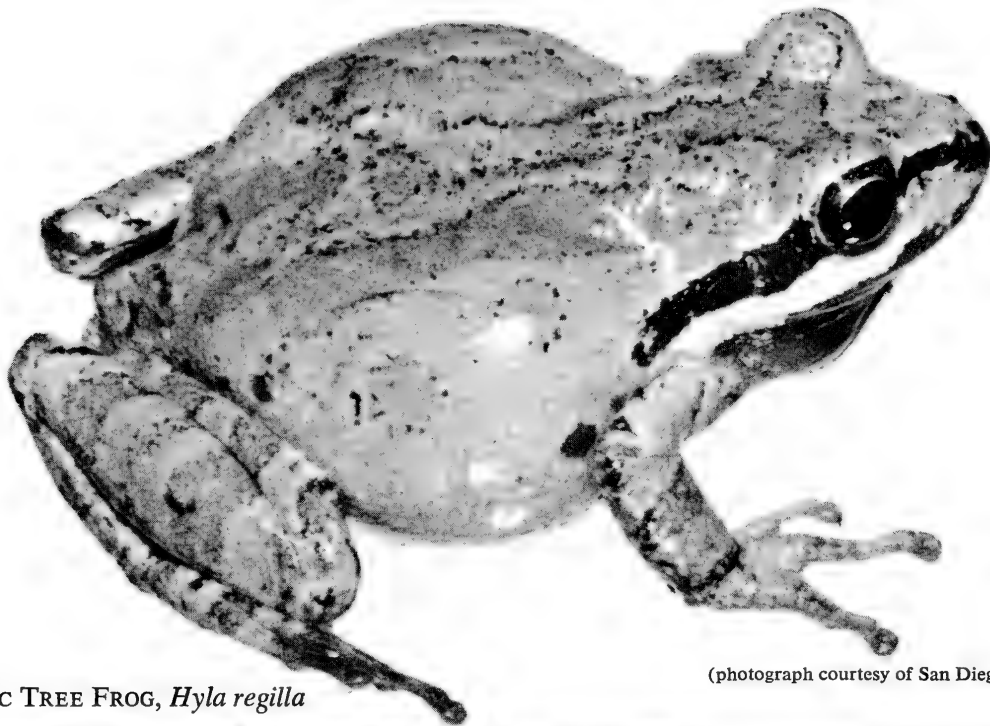
The eggs are laid in masses of 20 to 30 eggs, usually attached to some submerged object in a pool or stream. The envelope covering the eggs is usually sticky and will attach to most objects.

CALIFORNIA RED-LEGGED FROG (*Rana aurora*). This frog is the largest member of the native California frogs, reaching a length of 6 inches or more. It is restricted to the oak woodland community in the Los Angeles area, where an abundance of permanent water may be found.

This frog is highly aquatic and may jump several feet in one hop. The frog may be found some distance from water in dense vegetation, but is usually close to water. It prefers the quiet waters of reservoirs, lakes, springs, marshes, and streams where shore vegetation is relatively dense.

This frog is characterized by having a dark eye "mask" from the eye to the angle of jaw, posterior part of belly and rear of hind legs reddish, and dark spots on the back that usually have light centers. The toes are long, partially webbed, hind limbs long and muscular. There are two folds of skin (dorso-lateral folds) along either side of the back, extending from behind eye to hind legs, sometimes obscure and broken. The diameter of the ear is usually smaller than the eye diameter.

The eggs are usually laid in permanent water, attached to vegetation about a half to one foot below the surface of the water. The eggs are laid in a mass or several clusters, and the tadpoles grow to rather large size, about 3 inches.



(photograph courtesy of San Diego Zoo)

PACIFIC TREE FROG, *Hyla regilla*

YELLOW-LEGGED FROG (*Rana boylei*). The yellow-legged frog is found associated with streams in arroyos and canyon bottoms in the oak woodland community. In higher mountain areas outside of the county it may be found around springs and their associated streams. This frog is somewhat restricted to stream courses, and seldom ventures very far away from the edge of the stream. Marginal pools of water usually left by higher water during the rainy season are most often occupied by this frog than the stream itself.

The yellow-legged frog is 2 to 4 inches in length, with a definite pattern of dark spots on the back. A light colored bar is usually present between the eyes, but often faint. The posterior part of the belly and hind limbs are yellowish, the anterior part of the belly is white. The ear is colored like the rest of the body. The skin folds along either side of the back are obscure. The dorsal skin is minutely tubercular, somewhat rough to the touch.

Breeding occurs from March to June. The eggs are laid in large masses and attached to stones in the pool bottoms. The eggs hatch in two weeks to a month, depending upon the temperature of the water.

MOUNTAIN YELLOW-LEGGED FROG (*Rana muscosa*). This frog occurs in canyon bottoms and arroyos in the oak woodland community. Its habits are similar to those of the yellow-legged frog, and both species may be found together in one canyon of the San Gabriel Mountains.

This species differs from the yellow-legged frog by having an obscure mottling of color on the back, the light bar between the eyes is absent, barring of the hind limbs is less distinct, the yellowish color of the posterior part of the belly and hind limbs is more evenly distributed, than concentrated in the groin region as in *R. boylei*.

The eggs are laid in a similar manner to the yellow-legged frog, but differ in coloration. The mountain yellow-legged frog eggs are light tan above and creamy white below while those of the yellow-legged frog are black above and white below.

This frog has a slightly wider distribution than that of the yellow-legged frog, and occurs in the canyons and arroyos on the desert side of the mountains in this area.

BULLFROG (*Rana catesbeiana*). The bullfrog has been introduced into the Los Angeles area



(photograph courtesy of San Diego Zoo)

CALIFORNIA RED-LEGGED FROG, *Rana aurora*

and its distribution is uncertain. It has been found in the larger reservoirs of the area, and prefer large bodies of water rather than streams to live in.

The bullfrog is our largest American frog, reaching a length of 8 inches or more. The bullfrog may be recognized by the absence of

skin folds on the back, the ear is larger than the diameter of the eye, and a greenish dorsal color that is more pronounced anteriorly, though the color may vary from greenish to almost black.

The bullfrog is considered a game animal in several states with definite seasons and



(photograph by Mike Hatchimonji)

YELLOW-LEGGED FROG, *Rana boylei*



(photograph courtesy of San Diego Zoo)

MOUNTAIN YELLOW-LEGGED FROG, *Rana muscosa*

methods assigned for its capture. It is a highly prized food animal.

LEOPARD FROG (*Rana pipiens*). The leopard frog has also been introduced into the Los Angeles area. This frog is smaller than the bullfrog, about 3 to 4 inches in length, and its distribution in the area is uncertain.

The leopard frog is easily distinguished from our other frogs by its distinct, light colored skin folds along either side of the back, well defined dark spots outlined by white on the dorsum, and a grayish to brownish dorsal color. It may be found associated with streams, lakes, and reservoirs.



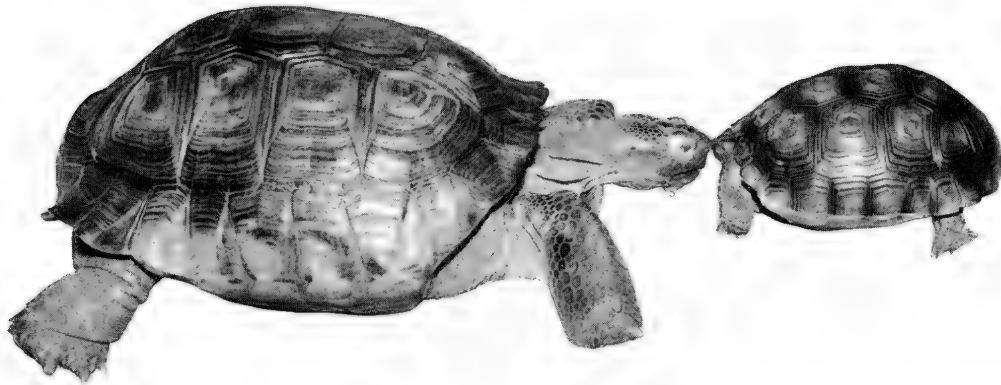
(photograph courtesy of San Diego Zoo)

BULLFROG, *Rana catesbeiana*

Turtles

(*Order Testudinata*)

TURTLES (Order Testudinata)



(photograph courtesy of San Diego Zoo)

DESERT TORTOISE, *Gopherus agassizi*

DESERT TORTOISE (*Gopherus agassizi*). The desert tortoise is an inhabitant of the Joshua tree forest community of the Los Angeles area. There are numerous records of specimens being found on the city streets and freeways, but these are tortoises that have been picked up by campers and picnickers and released in the immediate vicinity of Los Angeles.

The desert tortoise is easily recognized by its elephantine-like feet, by an extension of

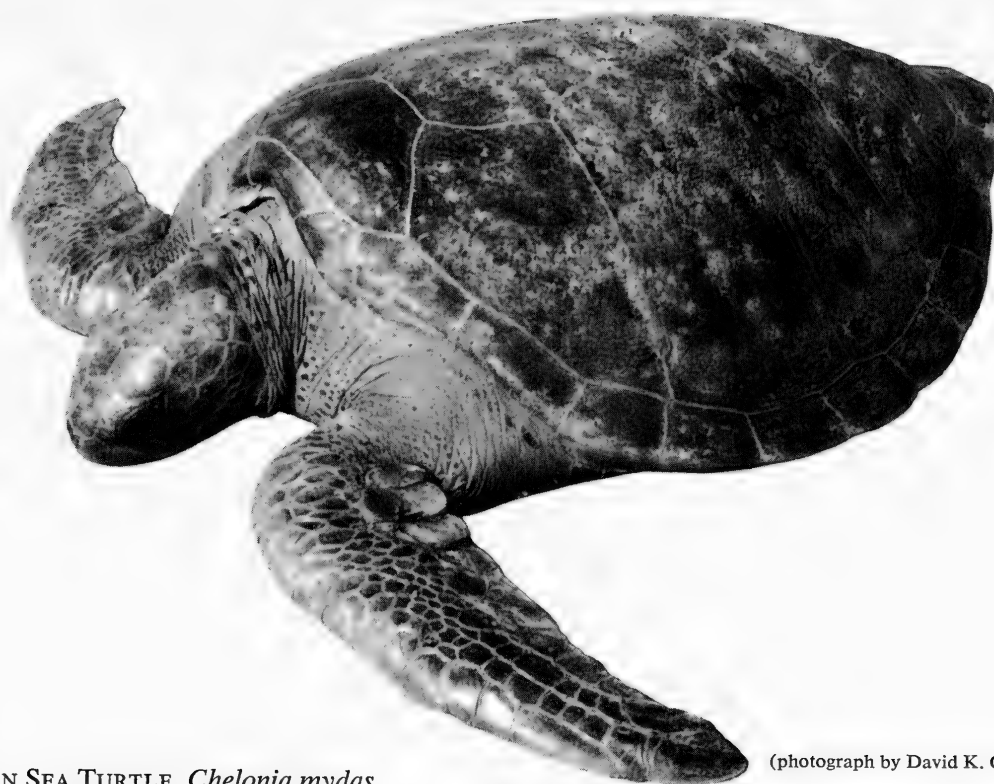
the lower part of the bony shell that is forked at the anterior end and protrudes forward beneath the tortoise's neck.

Desert tortoises are egg layers and published records indicate that the number laid varies from 2 to 6, usually in nests near the mouth of their burrows. The tortoises reach about 13 inches in length but generally average a smaller size. They feed principally on desert plants that include grasses, cacti, annuals, and fruits of these plants.



PACIFIC POND TURTLE, *Clemmys marmorata*

(photograph by Mike Hatchimonji)



(photograph by David K. Caldwell)

GREEN SEA TURTLE, *Chelonia mydas*

PACIFIC POND TURTLE (*Clemmys marmorata*). The Pacific pond turtle is a freshwater aquatic turtle, sometimes occurring in brackish water near the coast. It has been taken in the streams of the Los Angeles area, mostly in the oak woodland and coastal sage scrub communities.

The pond turtle may be recognized by its webbed feet, bony shell, smooth skin on the anterior part of the top of the head, the dorsal part of the shell horn-colored to black, and the ventral part yellow with dark markings along the union of the belly plates.

The food of this turtle is mostly animal material, but some aquatic plants are eaten. The size of the egg clutch varies from 3 to 11 eggs. Adults average 5 to 7 inches in length.

GREEN SEA TURTLE (*Chelonia mydas*). The green sea turtle may be distinguished from the four other marine turtles of the area by the presence of only one pair of plates on the top of the head, between and anterior to the eyes.

All sea turtles come to shore to lay their

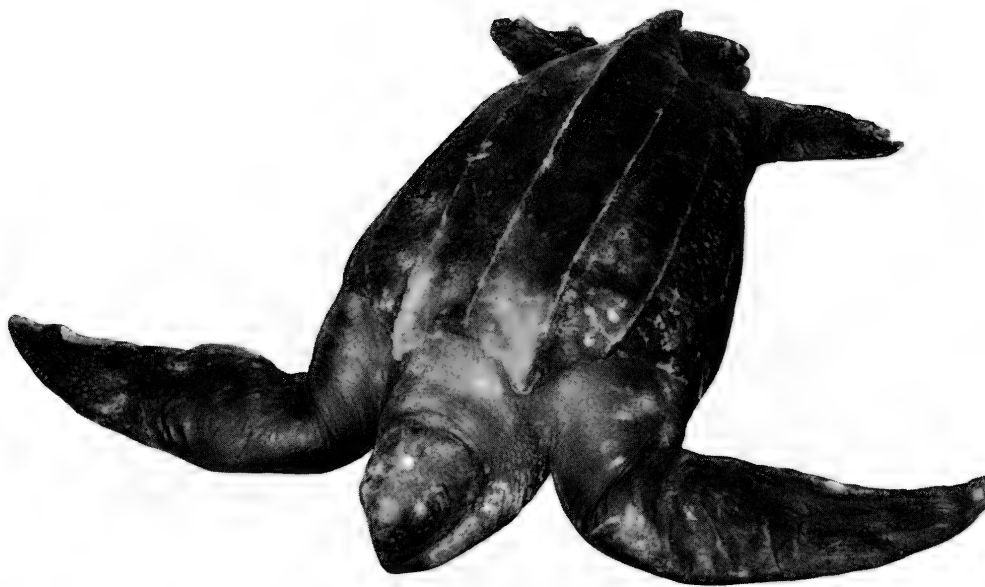
eggs on a sandy beach. The green sea turtle lays 75 to 200 eggs, depending upon the size of the female.

Sea turtles as a whole, are very large, the adults ranging in size from 2 to 6 feet, and a weight of 100 to 1500 pounds. Most are carnivorous, but the green turtle feeds principally on marine plant material.

Adult green turtles are about 3 feet in length and weigh 250 pounds. Most marine turtles are found in tropical waters, but occasionally wander into colder waters and are seen or picked up by fishermen in the San Pedro Basin.

PACIFIC TRUNKBACK (leatherback) TURTLE (*Dermochelys coriacea*). The Pacific trunkback is easily recognized by the leathery skin covering the bony shell. Young individuals may have 7 longitudinal rows of narrow horny shields on the back.

The Pacific trunkback is our largest marine turtle, reaching 6 feet in length and a weight of 1500 pounds. The number of eggs laid varies from 90 to 130.



(photograph by David K. Caldwell)

PACIFIC TRUNKBACK SEA TURTLE, *Dermochelys coriacea*

PACIFIC LOGGERHEAD (*Caretta caretta*). This turtle is difficult to distinguish from the Ridley sea turtle, but the oval shape of the outline of the dorsal shell and the brown to reddish-brown color of the shell will separate it from the Ridley. Both have two pairs of enlarged plates on the anterior part of the head, and have the first laterals touching the precentral plate.

Adult loggerheads average about 3 feet in length and a weight of about 300 pounds. Number of eggs laid varies from 120 to 150.

PACIFIC RIDLEY SEA TURTLE (*Lepidochelys olivacea*). The Ridley is our smallest sea

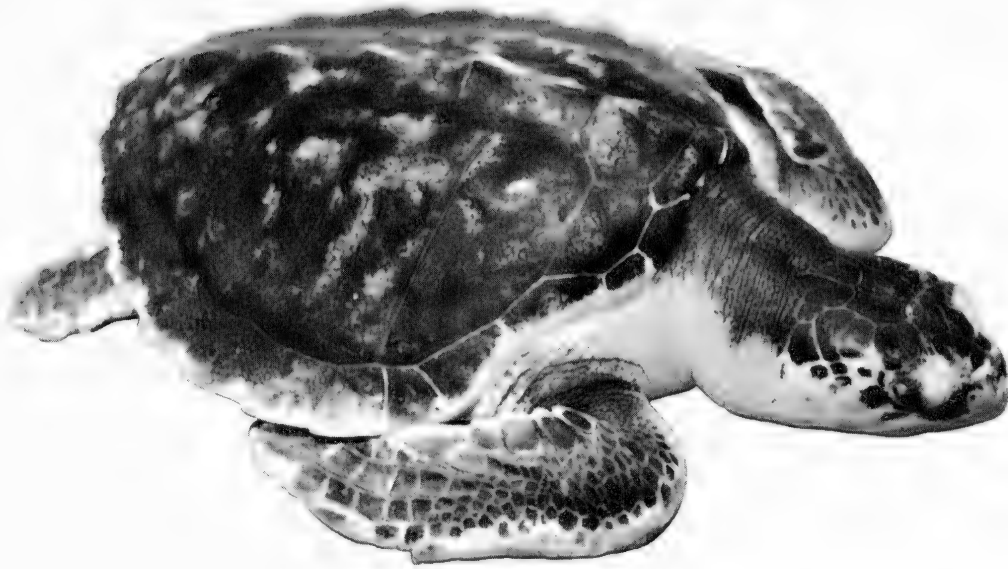
turtle, the adults averaging about 2 feet in length and a weight of 100 pounds. The Ridley differs from the loggerhead in its smaller size, a more circular outline of the dorsal shell, and the shell is colored gray to olive green. The number of eggs laid by a mature female varies from 70 to 135.

PACIFIC HAWKBILL (*Eretmochelys imbricata*). The Pacific hawksbill is similar to the ridley and the loggerhead in having two pairs of enlarged plates on the anterior part of the top of the head. However, the hawksbill differs by having the first laterals separated from the precentral plate.



(photograph courtesy of San Diego Zoo)

PACIFIC LOGGERHEAD SEA TURTLE, *Caretta caretta*



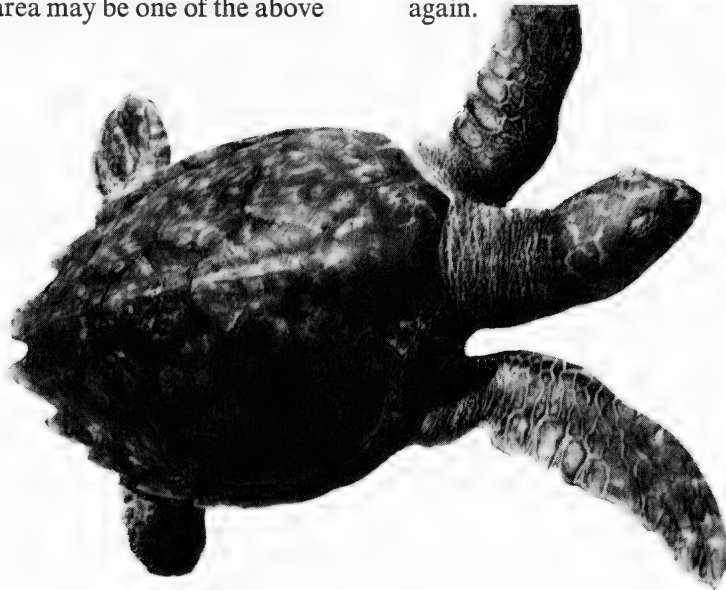
(photograph by David K. Caldwell)

PACIFIC RIDLEY SEA TURTLE, *Lepidochelys olivacea*

A large hawksbill will average about 2½ feet, and a weight of 250 pounds. Mature females lay about 150 to 200 eggs to a nest.

TEXAS TORTOISE (*Gopherus berlanderi*) and BOX TURTLE (*Terrapene sp.*) There is a good possibility that turtles and tortoises found in the streets of our area may be one of the above

species. They are sold in pet stores in large numbers and may eventually escape to the streets or be released in the desert areas by their owners. If you are unsure of your identification of turtles and tortoises found in the streets or deserts, please check with local authorities on turtles before you release it again.



(photograph by David K. Caldwell)

PACIFIC HAWKSBILL SEA TURTLE, *Eretmochelys imbricata*

Lizards

(*Order Squamata, suborder Sauria*)

LIZARDS (Order Squamata, suborder Sauria)



BANDED GECKO, *Coleonyx variegatus*

(photograph courtesy of San Diego Zoo)

BANDED GECKO (*Coleonyx variegatus*). The banded gecko is an inhabitant of the chaparral and joshua tree forest communities of the Los Angeles area. The geckos are primitive nocturnal lizards, with thin transparent skin, fragile tails, large eyes with elliptical pupils, and its claws are retractile into sheaths.

The banded gecko feeds primarily on insects, and prefers rocky soil in which to live. It is frequently found crossing highways at

night, the tail curled over the back, and wagging slightly as the lizard walks along.

The coastal chaparral form retains the broad crossbands of the dorsal part of the body as an adult. This crossbanding is common in juveniles of the desert and coastal forms, but generally breaks up into a series of reticulated lines or broken bands in the desert form.

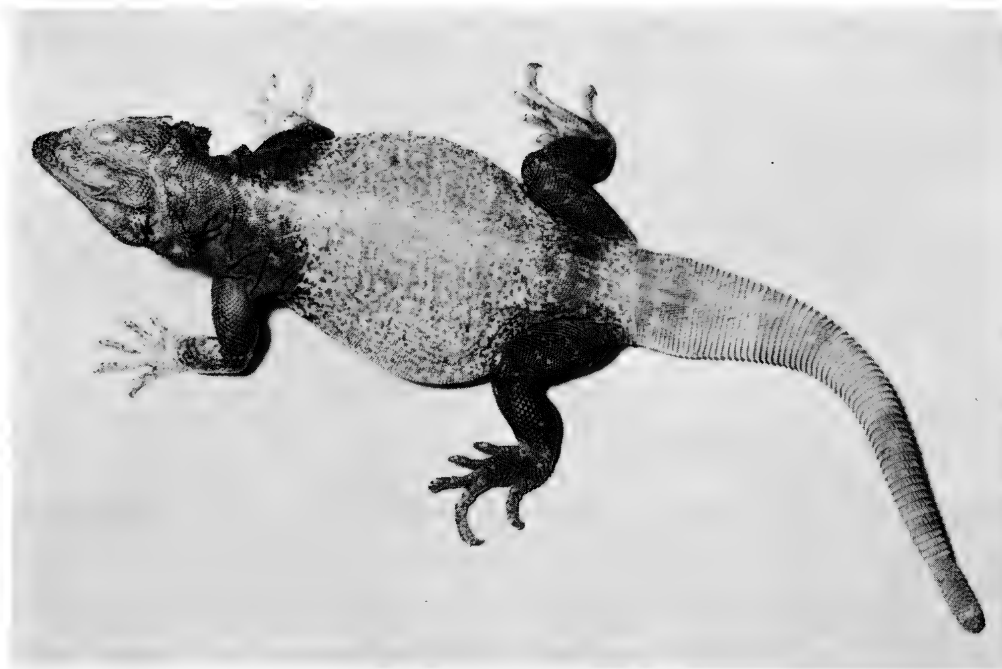


DESERT IGUANA, *Dipsosaurus dorsalis*

(photograph courtesy of San Diego Zoo)

DESERT IGUANA (*Dipsosaurus dorsalis*). The desert iguana is found in the joshua tree forest of the Mojave Desert area of the county. Desert iguanas feed primarily on desert plant material and are usually found associated with desert sand dunes.

Desert iguanas are recognized by the single enlarged crest of scales down the center of the back that continues out on the tail. These lizards have extremely long tails and often run only on their hind limbs, using the tail as a balancing organ. Their bodies are somewhat



CHUCKWALLA, *Sauromalus obesus*

(photograph courtesy of San Diego Zoo)

slim, the head small in comparison to the body, and attain a total length of about 14 inches.

CHUCKWALLA (*Sauromalus obesus*). The chuckwalla is one of our largest California lizards. This lizard prefers rocky slopes of buttes and talus slopes of desert mountains. The chuckwalla may be found around the desert slopes of the San Gabriel Mountains and Lovejoy Butte in the joshua tree forest community.

Chuckwallas may be easily recognized by their large size, the head and body greatly

flattened, and the absence of a large scale on the end of the snout. The scales of the body are small but rough to the touch. The dorsal color of adult males is black around the head and shoulders, somewhat spotted or uniform gray or reddish posteriorly. Females and juveniles have brownish or orange crossbands with gray interspaces. Their heads are usually darker than the rest of the body. Adults attain a total length of 16 inches.

Chuckwallas have similar feeding habits to the desert iguana. Their food consists mainly of desert flowers and leaves.



GRIDIRON-TAILED LIZARD, *Callisaurus draconoides*

(photograph courtesy of San Diego Zoo)



MOJAVE FRINGE-TOED LIZARD, *Uma scoparia*

(photograph by Jim A. Honey)

GRIDIRON-TAILED (ZEBRA-TAILED) LIZARD (*Callisaurus draconoides*). These lizards are rapid runners, preferring desert floors where vegetation is sparse and a certain amount of rocky cover is available. They are found in the joshua tree forest community of the Los Angeles area.

These lizards have alternating white and black bars below the tail, two diagonal bluish bars on the sides of the body just behind the

forelegs, and the scales of the upper lip are oblique and appear to be overlapping.

Gridiron-tailed lizards feed upon insects. They are very active during the spring and summer and run with their tail curled over their backs. They are often seen resting on small rocks with their tail curled over the back, twitching from side to side. Their maximum total length is about 9 to 10 inches.



WESTERN COLLARED LIZARD, *Crotaphytus collaris*

(photograph courtesy of San Diego Zoo)

MOJAVE FRINGE-TOED LIZARD (*Uma scoparia*). The mojave fringe-toed lizard is found in the joshua tree forest community of the Los Angeles area. This lizard is primarily a sand

dune animal, and when chased, will dive into the sand and bury itself.

The fringe-toed lizards are easily recognized by the row of fringe-like scales on the

sides of the third and fourth toes of the hind foot. Their bodies and tails are greatly flattened and the scales covering the upper lip are strongly imbricate. The belly is white with a black spot on either side of the belly about half way between the axilla and groin. The

back is covered with black reticulations enclosing whitish spots with a small black dot in the center of each spot.

These lizards feed upon insects and occasionally other lizards as well, especially young individuals of other species.



LEOPARD LIZARD, *Crotaphytus wislizeni*

(photograph courtesy of San Diego Zoo)

WESTERN COLLARED LIZARD (*Crotaphytus collaris*). The western collared lizard may be found in the joshua tree forest and the piñon-juniper woodland communities. These lizards prefer rocky terrain and often take refuge under rocks when alarmed.

The western collared lizard may be recognized by the two (occasionally one) black bars across the shoulders, small scales on top of the head, and covering the entire body except for the belly. The head is large, tail

rounded and rather long. The dorsal coloration is variable, from light tan to bright green, and the throat of males is usually greenish to bluish.

Most of the desert lizards make no attempt to bite when handled, but the western collared lizard is one exception. Its mouth is large and normally may bite hard enough to draw blood. The lizard is harmless and there is no danger from its bite. Its main diet is insects and other lizards.



DESERT SPINY LIZARD, *Sceloporus magister*

(photograph courtesy of San Diego Zoo)



(photograph courtesy of San Diego Zoo)

WESTERN FENCE LIZARD, *Sceloporus occidentalis*

LEOPARD LIZARD (*Crotaphytus wislizeni*). This species has been taken in the piñon-juniper woodland and joshua tree forest communities of the desert slopes of the San Gabriel Mountains. The leopard lizard is often found associated with mesquite tree sand dunes of the southwestern desert area.

The leopard lizard attains a length of about 12 inches. It is similar to the collared lizard in the size of the head scales but differs in having a more narrow and longer head, and in color and color pattern. The dorsal coloration is gray to tan, with whitish crossbars from the neck to the rump. Large grayish or brownish spots often outlined by a white line around the spot, are scattered over the back.

These lizards are rapid runners and extremely wary. They feed upon insects, some plant material, and other lizards.

DESERT SPINY LIZARD (*Sceloporus magister*). The desert spiny lizard is found in the joshua tree forest community of the desert area of the county. It is most often found associated with the trunks of the joshua tree and rocky areas of the desert.

This lizard is easily recognized by the stout body, large spiny scales on the back and sides, the enlarged row of scales over the eye are not

separated from the other large head scales by an intervening row of small scales, and the presence of a large black blotch in front of each shoulder. These large blotches do not meet across the back, but are united across the throat. The males have brilliant bluish black areas on the belly, not meeting on the midline, and often outlined with yellow.

The principal foods eaten by this lizard are insects, but occasionally plant material and other lizards are consumed.

WESTERN FENCE LIZARD (*Sceloporus occidentalis*). This lizard is found in all vegetation communities of the Los Angeles area. They are usually associated with fallen tree trunks, living trees, shrubs, rock fences, wooden corals, and other man-made objects. The encroachment of man has probably aided the life of this lizard by creating additional habitats (discarded lumber, houses, fences) and food supply (garbage dumps that attract insects).

The western fence lizard is similar to the desert spiny lizard, but males lack the black shoulder patches, are smaller in size, have blue throat and blue belly patches rather than black or bluish black, and have a series of small scales separating the large scales over the eye from the larger head scales.

The fence lizard is the most common lizard of the area. Often considered as a poisonous species by local inhabitants, it is quite harm-

less and beneficial. It feeds principally on insects, especially those that are injurious to trees, gardens, and decorative yard plants.



SAGEBRUSH LIZARD, *Sceloporus graciosus*

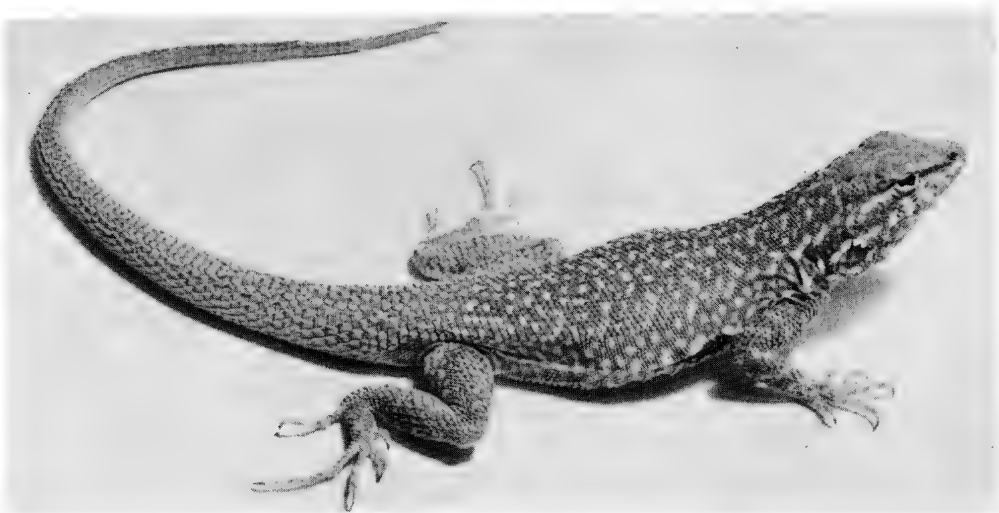
(photograph courtesy of San Diego Zoo)

SAGEBRUSH LIZARD (*Sceloporus graciosus*). The sagebrush lizard is restricted to the yellow pine forest of the Los Angeles area. Elsewhere it may be found associated with the Great Basin sagebrush vegetation from Washington to New Mexico.

The sagebrush lizard is similar to the western fence lizard in size and dorsal coloration, but differs in having smaller, less pointed scales on the back, scales on the rear of the thigh small, almost granular, and having a

rust colored area just behind the arms. The sides of the body are often yellowish to light orange, and the belly patches of the males are a darker blue.

This lizard is more often found on the ground, but when frightened will take refuge in trees, shrubs, or rock piles. The food eaten by these lizards consists of a wide variety of insects, including ants, flies, wasps, scorpions, spiders, and ticks.

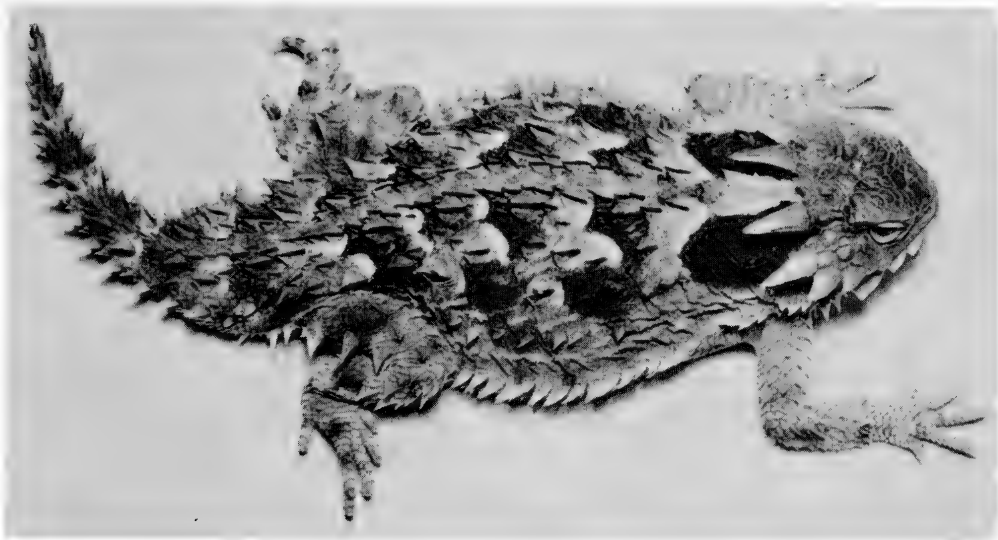


SIDE-BLOTCHED LIZARD, *Uta stansburiana*

(photograph courtesy of San Diego Zoo)

SIDE-BLOTCHED LIZARD (*Uta stansburiana*). There are two forms of the side-blotched lizard in the Los Angeles area. One a desert

form, found only in the joshua tree forest community, the other is found in all other vegetation communities of the county. The



(photograph courtesy of San Diego Zoo)

CALIFORNIA HORNED LIZARD, *Phrynosoma coronatum*

only difference between the two forms is the presence of larger dorsal scales in the desert race.

Side-blotched lizards are the most common lizards of the desert, being exceeded on the coastal side of the mountains only by the western fence lizard. These lizards are easily distinguished from other lizards of the county by their very small granular scales of the back, small size (3 to 4 inches in length), and a large black spot on the side of the body, just behind the forelimb.

CALIFORNIA HORNED LIZARD (*Phrynosoma coronatum*). There are two races of the California horned lizard in the Los Angeles area. One is found in the joshua tree forest community, the other in all vegetation communities except joshua tree forest. The desert race has smaller head scales and horns, and the head scales are usually more rugose.

Horned lizards are easily distinguished by their large spines (horns) on the rear of the head, flattened bodies that are covered with smaller spines on the back and tail. The California horned lizard has two rows of fringe-like spines along the side of the body, and 2 or more longitudinal rows of enlarged, overlapping pointed scales on each side of the throat. Their color is variable, usually colored somewhat like the soil upon which they live.

Their food is chiefly insects, and may often be found near ant beds or bee hives where they may consume large quantities of food in a short period of time.

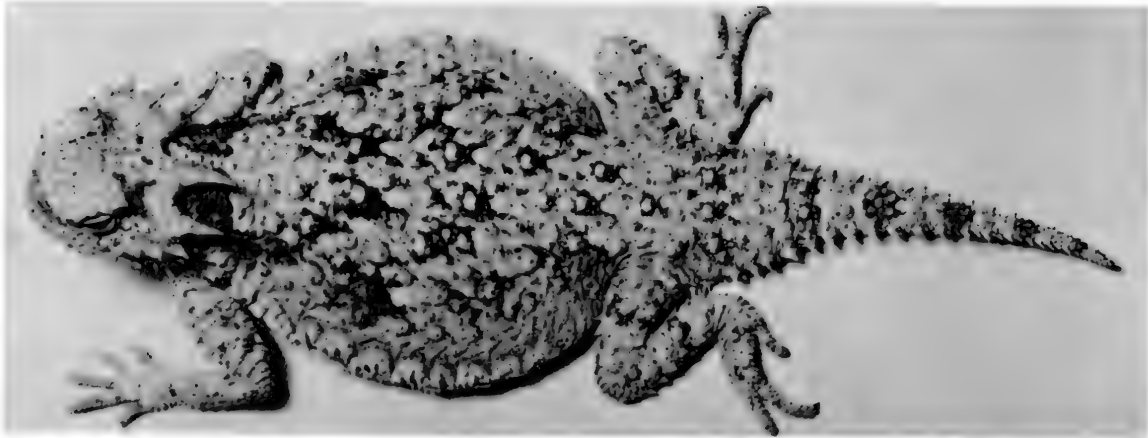
DESERT HORNED LIZARD (*Phrynosoma platyrhinos*). The desert horned lizard is found in the joshua tree forest community, where it is associated with a race of the California horned lizard.

Desert horned lizards may be recognized by having small throat scales, usually one longitudinal row of enlarged pointed scales on either side of the throat or none at all, one row of fringe-like scales on the sides of the body, and all horns on the rear of the head somewhat short.

The desert horned lizard is slightly smaller than the California horned lizard, about 4 to 5 inches in total length. Both species eat the same kind of food but probably not the same quantity of each kind of insect.

ISLAND NIGHT LIZARD (*Klauberina riversiana*). The island night lizard is found on the Channel Islands, and is particularly abundant in coastal sage scrub on San Clemente Island of Los Angeles County.

This lizard is larger than the desert night lizard, and distinguished from the latter by having two rows of enlarged scales over the eye, a coloration of gray to dark brown ir-



DESERT HORNED LIZARD, *Phrynosoma platyrhinos*

(photograph courtesy of San Diego Zoo)

regular blotches on the back or occasionally two distinct light stripes down either side of the back.

The island night lizard is most frequently found on the ground in grassy fields, under

rocks, in cactus clumps, and under surface debris. Its food is principally plant material but insects are occasionally eaten. The young are born in late summer or early fall and number from three to nine.



ISLAND NIGHT LIZARD, *Klauberina riversiana*

(photograph by Jay M. Savage)

DESERT NIGHT LIZARD (*Xantusia vigilis*). A small desert species of lizard about 4 inches in length, restricted to the joshua tree forest

and piñon-juniper communities of the Los Angeles area. The desert night lizard is nocturnal, usually hiding beneath the leaves or



DESERT NIGHT LIZARD, *Xantusia vigilis*, adult and young

(photograph by Jay M. Savage)

bark and leaf debris of living and dead spanish dagger and joshua trees.

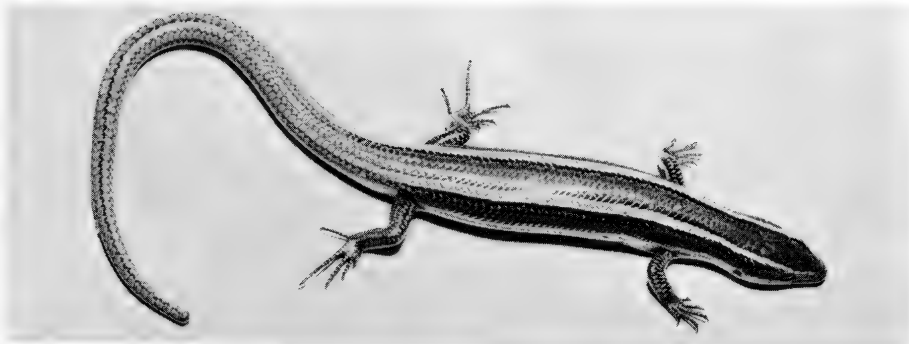
These lizards are distinguished by their nocturnal habits, vertically elliptical pupil, large plates on top of the head, granular skin, and one row of scales over the eye. Its coloration is light tan to dark brown, with the back covered with small blackish dots. The belly is creamy white.

Desert night lizards are good climbers, often found on the trunks of spanish dagger, and frequently under rocks and in rock crevices. They feed upon insects; termites, ants, and flies are important items in their diet. Only one or two young are born, rarely three, and usually in late summer.



WESTERN RED-TAILED SKINK, *Eumeces gilberti*

(photograph courtesy of San Diego Zoo)



WESTERN SKINK, *Eumeces skiltonianus*

(photograph courtesy of San Diego Zoo)

WESTERN RED-TAILED SKINK (*Eumeces gilberti*). The red-tailed skink is found in a few areas of the county in the oak woodland community.

The red-tailed skink differs from the western skink in having 8 scales bordering the upper lip, usually three nuchal scales, and lacking the lateral stripes in adults. The dorsal coloration consists of a uniform olive to olive brown color without markings, or the scales sometimes edged with dark brown, especially along the sides of the body. The tail is usually yellowish orange to rust red, and the head of males may become bright orange. Juveniles are similar to the western skink, having the lateral light stripes, but the tails are usually pink or salmon colored.

Red-tailed skinks are generally larger than the western skink, attaining a length of 6 to 7 inches, while western skinks are approximately 4 to 5 inches. The food and habits of the red-tailed skink are similar to the western skink. Red-tailed skinks lay 5 to 9 eggs, in cavities similar to the western skink.

WESTERN SKINK (*Eumeces skiltonianus*). Chaparral, oak woodland, and yellow pine forest are the principal vegetation communities inhabited by this lizard.

Western skinks are recognized by their rather smooth, overlapping scales on the body, four large nuchal scales, and seven scales on the upper lip. The dorsal coloration is dark brown to almost black, with two



GREAT BASIN WHIP-TAIL LIZARD, *Cnemidophorus tigris*

(photograph courtesy of San Diego Zoo)

whitish stripes along either side of the back. The tail of juveniles and subadults is brilliant blue.

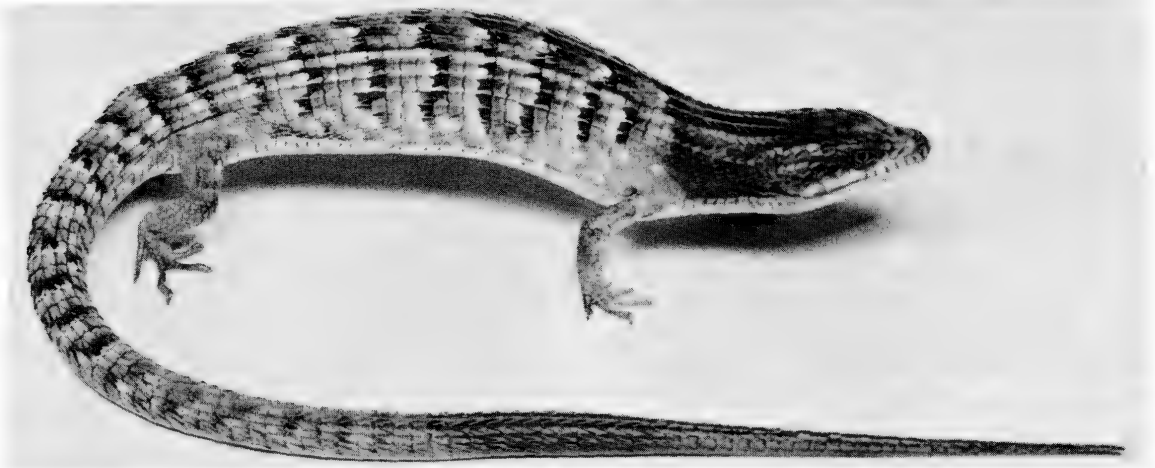
Western skinks feed upon insects but are occasionally cannibalistic. They usually lay 7 to 10 eggs in a chamber beneath a rock or some other type of concealing cover. The eggs hatch in middle to late summer.

GREAT BASIN WHIP-TAIL LIZARD (*Cnemidophorus tigris*). There are two races of Great Basin whip-tail lizards in the county. One a desert race, occurring in the joshua tree forest community, the second a coastal form, found in all other vegetation communities of the Los Angeles area. The coastal form is distinguished from the desert form by having a

more contrasting dorsal coloration of blacks and tans and larger spots along the middle of the back.

The whip-tail lizards are recognized by their extremely long rounded tail, large rectangular rows of belly scales, granular scales on the back, and a round pupil.

Whip-tails are usually found associated with sandy and rocky soils that have a moderate amount of vegetation and open ground. They generally emerge from their burrows late in the morning, and return early in the afternoon. Whip-tails feed on a variety of insects, taking whatever food item is available to them. They lay about 2 to 10 eggs in early summer and hatchlings appear in August and September.



(photograph courtesy of San Diego Zoo)

WESTERN ALLIGATOR LIZARD, *Gerrhonotus multicarinatus*

WESTERN ALLIGATOR LIZARD (*Gerrhonotus multicarinatus*). The alligator lizard is one of our most common lizards of the oak woodland and chaparral communities. It also occurs in the yellow pine forest and coastal sage scrub but not as common as in the former communities.

Alligator lizards are recognized by their large keeled, plate-like scales on the back, a lateral granular fold of skin along each side of the body, and large belly scales. The dorsal coloration is highly variable, ranging from olive gray, dull yellow, to dark brown. There are about 10 black crossbands on the body, often outlined with irregular whitish lines.

The body is elongate, reaching a length of 6 inches or more. The tail is usually twice the length of the body.

Alligator lizards prefer shaded areas and are often found in dense vegetation along streams and in shaded canyons. They feed principally upon insects and spiders but have been known to eat bird eggs and small mammals.

They are aggressive lizards and may attack animals larger than they are. They are often thought to be poisonous but are quite harmless. They do bite hard, especially the adults, and may bring blood.

Alligator lizards lay 6 to 20 eggs during the



SILVERY LEGLESS LIZARD, *Anniella pulchra*

(photograph courtesy of San Diego Zoo)

summer and the eggs generally require about 60 days to hatch. They may utilize an existing mammal burrow in which to lay their eggs, or may dig a nest of their own.

SILVERY LEGLESS LIZARD (*Anniella pulchra*). These lizards are burrowers, spending much of their life underground. They have been found in the coastal sage scrub and the oak woodland communities of the county, generally where the soil is somewhat sandy.

Legless lizards are easily recognized, for as the name implies, they have no legs. They appear to be snakes when first seen, but have eyelids, ear openings, and very short tails. They are apparently restricted to certain

areas of the county because of their inability to penetrate clay or adobe soils. The dorsal coloration consists of a silvery hue, with a dark brown or black line down the middle of the back and one on each side of the body. Occasionally these black lines may be absent.

Their tail is often blunt and gives an illusion of having two heads. Some of our local residents have given these lizards an unofficial name, "the two-headed snake." Legless lizards feed upon insect larvae, spiders, and burrowing beetles. Feeding may take place on the surface of the ground, or just below it. The number of young varies from 1 to 4, but normally there are two young per female.

Snakes

(Order Squamata, Suborder Ophidia)

SNAKES (Order Squamata, Suborder Ophidia)



(photograph courtesy of San Diego Zoo)

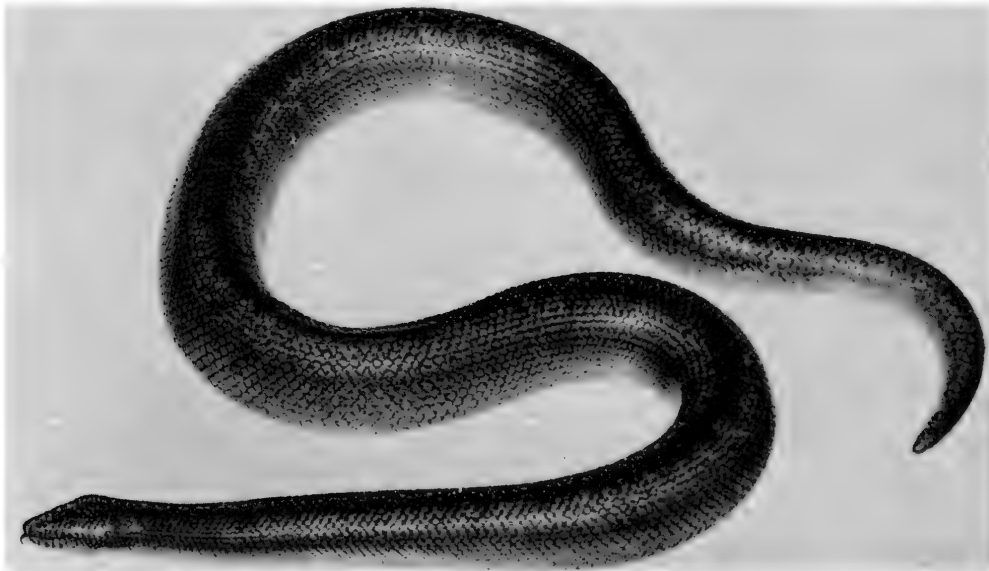
WESTERN WORM SNAKE, *Leptotyphlops humilis*

WESTERN WORM SNAKE (*Leptotyphlops humilis*). This snake inhabits the chaparral and Joshua tree forest communities of the Los Angeles area.

It is easily recognized by its uniform scales around the body, short, blunt tail, and minute

eye spots covered by scales. The western worm snake is silvery or pinkish in color, usually without a color pattern. Western worm snakes reach 9 to 12 inches in length.

These snakes spend most of their time underground and prefer sandy loam or sandy



(photograph courtesy of San Diego Zoo)

ROSY BOA, *Lichanura roseofusca*

soils in which to live. They may be seen on the surface following heavy rains. Their major food items are soft bodied insects, such as termites and ants.

ROSY BOA (*Lichanura roseofusca*). The boas are rather rare snakes, found in the coastal sage scrub, chaparral, and Joshua tree forest

communities of the area. They are generally nocturnal and may be found on roads at night. Rosy boas are often found associated with rocky hillsides, gravel and sandy canyon floors.

The rosy boa is recognized by its small-sized belly scales and the absence of enlarged scales on the chin. The color pattern consists

of three broad reddish brown stripes on the back, sometimes obscure or broken into a series of linear spots. The ground color is bluish gray to brownish gray, the belly whitish or blotched with brown or gray. This

species of boa is not large, attaining a length of two or three feet.

Like most boas the rosy boa is a constrictor, squeezing its prey to death. It feeds upon small rodents, birds, and occasionally lizards.



GLOSSY SNAKE, *Arizona elegans*

(photograph courtesy of San Diego Zoo)

GLOSSY SNAKE (*Arizona elegans*). Glossy snakes inhabit all vegetation communities of the area except yellow pine forest and oak woodland. There are two races in the Los Angeles area, one in the desert, the other in the coastal foothills. The coastal form is darker in color with longer dorsal blotches, otherwise there is little difference between the two races.

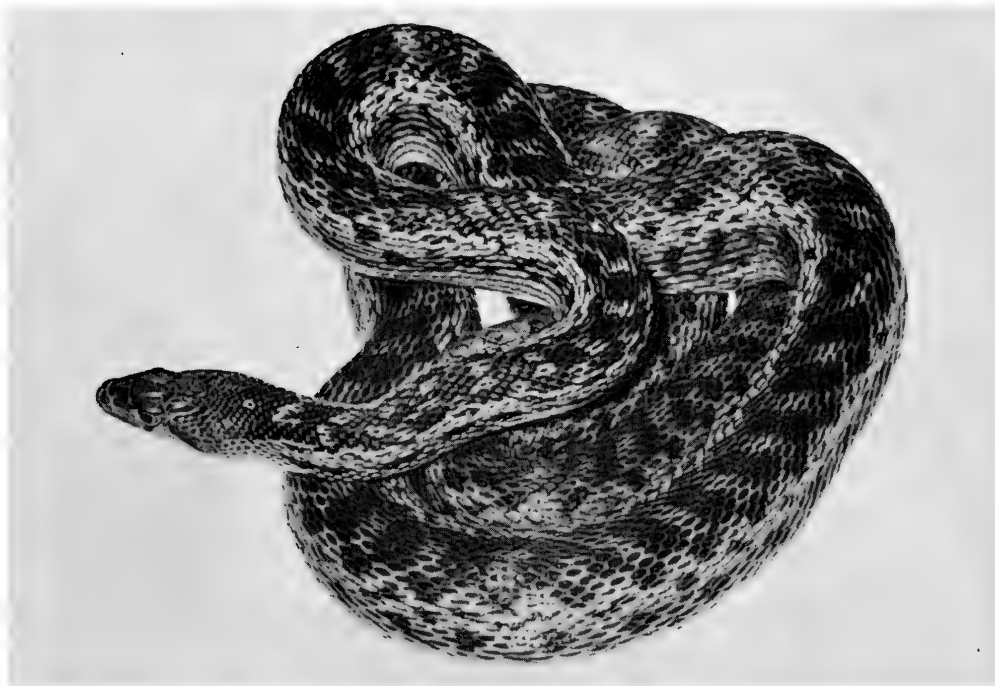
The glossy snake has smooth scales, a single anal plate, the lower jaw countersunk, caudals in two series, a single loreal scale, and the belly without markings. The dorsal ground color varies from pale yellowish to light brown. The dorsal blotches are usually tan to reddish brown, usually edged with black or dark brown.

Glossy snakes feed upon lizards, birds, and small mammals. They are often found in burrows during the day but are seen most often at night crawling across highways. Glossy snakes usually attain a length of about three feet but may occasionally reach four and a

half foot. Females usually average 8 to 9 eggs, but may lay as many as 20. The eggs are usually laid in early summer and hatch in August.

GOPHER (BULL) SNAKE (*Pituophis melanoleucus*). Gopher snakes are found in all vegetation communities of the area. They resemble the glossy snake in general appearance but differ in having keeled dorsal scales, larger and more pointed head, and four prefrontals. The dorsal color varies from whitish to light brown, with large squarish black or reddish brown blotches from the head to the tip of the tail. The blotches on the tail are usually black and contrast with the light ground color of the tail.

Gopher snakes usually range in length of four to six feet, but occasionally reach over eight feet in length. They are mainly active in the daytime, but may be seen abroad at night in the desert area. Females lay 3 to 20 eggs, the average being about 7 eggs. Gopher snakes feed mostly on rodents and small birds.



GOPHER SNAKE, *Pituophis melanoleucus*

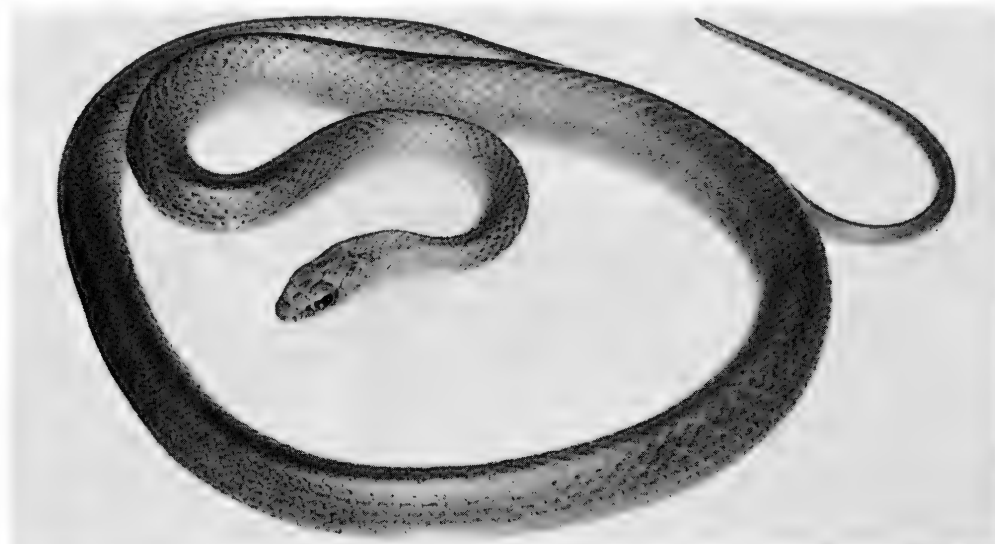
(photograph courtesy of San Diego Zoo)

WESTERN RACER (*Coluber constrictor*). The western racer is found in the chaparral and oak woodland communities of the area. It seems to prefer the edge of wooded areas, open grassy fields, and brushy areas along streams.

Adult western racers are usually bluish or greenish in color with a yellow belly. Juveniles

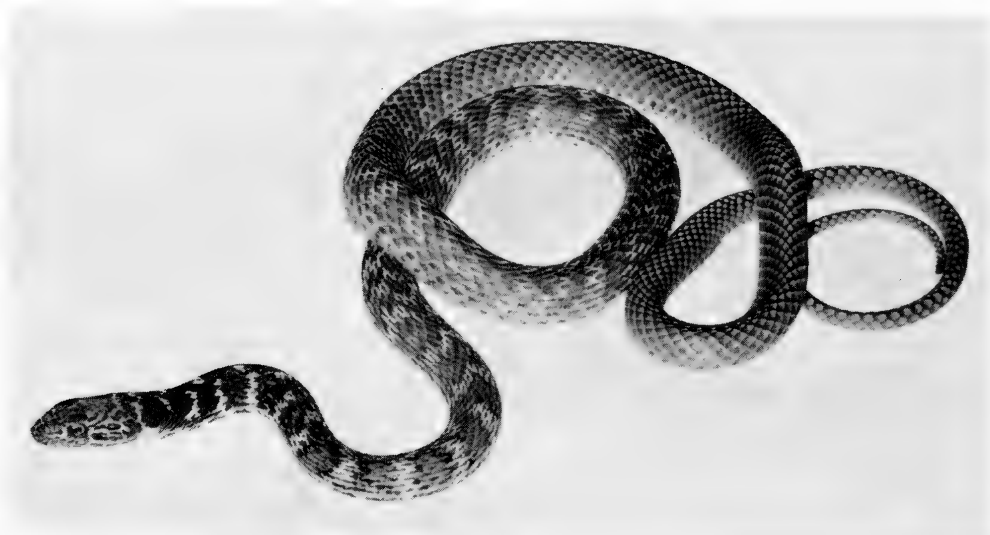
have a series of light bordered dark blotches on the neck and anterior part of the body that disappear as they become adults. They may be distinguished from other snakes by their elongate body and tail, divided anal plate, two preoculars, and scale row count of 17 anteriorly, 17 midbody, and 15 posteriorly.

Adults are usually about 3 feet in length,



WESTERN RACER, *Coluber constrictor*

(photograph courtesy of San Diego Zoo)



RED WHIPSNAKE, *Masticophis flagellum*

(photograph courtesy of San Diego Zoo)

but some individuals may reach six feet. The diet consists of insects, amphibians, lizards, birds, and small mammals. Females lay from 1 to about 25 eggs, the average being about 12.

RED WHIPSNAKE (*Masticophis flagellum*). The red whipsnake occurs in the coastal sage scrub, piñon-juniper woodland, and joshua tree forest communities. It is found associated with rocky hillsides, canyon bottoms, open grassy fields, brushy flats, and occasionally abandoned farm houses.

The red whipsnake is similar to the western racer in its slim appearance, but differs in having 11 to 13 body scale rows posteriorly, a larger head, and the dorsal coloration yellowish tan to brick red with a series of blackish bars across the neck. Occasionally a completely black phase may be found. Adults average 3 to 4 feet in length, sometimes reaching 6 feet. The diet consists of insects, lizards, snakes, mammals, and birds. Females lay 8 to 24 eggs, and 12 about the average sized clutch.



CALIFORNIA STRIPED WHIPSNAKE, *Masticophis lateralis*

(photograph courtesy of San Diego Zoo)

CALIFORNIA STRIPED WHIPSNAKE (*Masticophis lateralis*). The striped whipsnake is found in all vegetation communities of the area. It is often found associated with heavy brush or dense wooded areas along canyon bottoms.

This snake is easily recognized by the cream to yellow line along either side of the back, beginning just behind the lower jaw

and continuing past the anus. Its appearance is similar to the red whipsnake except for the black ground color and the yellowish stripes.

California striped whipsnakes average 3 to 4 feet in length, occasionally reaching 5 feet. They feed upon lizards, small mammals, and birds. Six to eight eggs are laid in the early summer and the incubation period is about 60 to 90 days.



(photograph courtesy of San Diego Zoo)

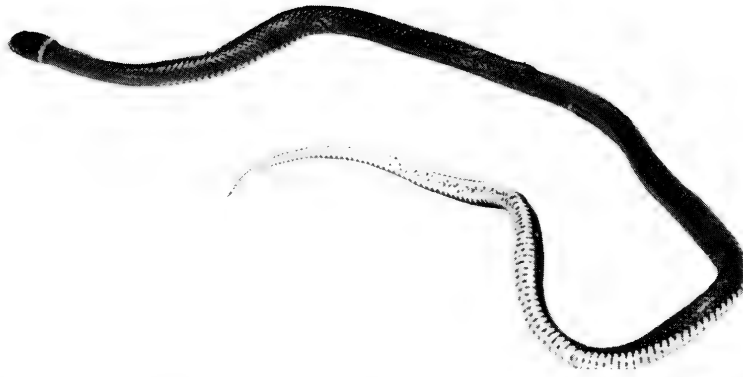
WESTERN PATCH-NOSED SNAKE, *Salvadora hexalepis*

WESTERN PATCH-NOSED SNAKE (*Salvadora hexalepis*). This snake is found in all vegetation communities of the area except the yellow pine forest. It is most abundant in the edges of the oak woodland and chaparral along canyon bottoms and slopes.

The patch-nosed snake is well named for it has an enlarged scale on the end of the nose that extends on top of the snout. The edges of this enlarged scale are not attached to the

other scales, and appears to be a "patch" pasted on the snout. The ground color is grayish to dark brown, with a broad mid-dorsal light line down the back. The dorsal line is often obscure and there may be indications of crossbanding in the California forms. Patch-nosed snakes attain a length of 2 to 4 feet, but usually average 2 to 2½ feet in length.

Mating usually takes place in May or early June. Four to ten eggs are laid in early sum-



(photograph by Mike Hatchimonji)

WESTERN RING-NECKED SNAKE, *Diadophis punctatus*

mer and incubation takes about 90 days. Their food is chiefly lizards, but small mammals may also be eaten.

WESTERN RING-NECKED SNAKE (*Diadophis punctatus*). This secretive snake is restricted to the oak woodland community. Ring-necked snakes are found beneath boards, logs, rocks, and other types of cover in damp or humid places.

Ring-necked snakes are recognized by their

uniform dorsal color of blue-gray to blackish slate with a light colored ring around the rear of the head. The ring is usually orange but may be reddish or yellowish. The ventral surface is usually yellowish to orange with the ventral surface of the tail bright red or orange-red. Most individuals have a series of black dots along either side of the belly.

Adults average 12 to 22 inches in length. They feed upon small salamanders, frogs, snakes, worms, and probably insects. Usually



(photograph courtesy of San Diego Zoo)

CALIFORNIA KING SNAKE, *Lampropeltis getulus*

three or four eggs are laid during the early summer, and incubation takes about 45 to 60 days.

CALIFORNIA KING SNAKE (*Lampropeltis getulus*). California king snakes occur in all vegetation communities of the area except yellow pine forests. They are abundant in the chaparral of the foothills and along canyon bottoms.

This king snake is recognized by its single loreal scale, dark markings on the belly, and the scales beneath the tail in two series. There

are three color phases: alternate blotches or bands of black and white across the body; body brown with a white stripe down the center of the back; body brown to dark brown with mottled white spots over the back.

Adults range from two to five feet in length, three feet being about average size. The number of eggs laid varies from 15 to 30 and incubation takes 80 to 90 days. They feed upon other snakes, small mammals, birds, lizards, and occasionally are cannibalistic.



MOUNTAIN KING SNAKE, *Lampropeltis zonata*

(photograph courtesy of San Diego Zoo)

MOUNTAIN KING SNAKE (*Lampropeltis zonata*). The mountain king snake is abundant in chaparral, yellow pine, and oak woodland communities, especially the latter in the vicinity of Eaton Canyon. They are found crawling about on the forest floor during mid-morning and usually late in the afternoon.

Mountain king snakes are easily recognized by their alternating pattern of black bands with red and white bands. The reds and whites are always separated from each other by a black band. The top of the head and the snout are usually black, with black markings on the upper lip.

Adults are usually 2 to 3 feet in length. They feed upon small lizards, mice, and other snakes. King snakes kill their prey by constriction.

There is little information on the natural

history of this species. Length of incubation, clutch size, and time of egg laying is not known.

There are two races of the mountain king snake in the Los Angeles area. One with fewer than 37 groups of body bands (triads) that occurs in the chaparral community along the coastal area; the other, with more than 36 body triads, is found in the San Gabriel Mountains.

WESTERN LONG-NOSED SNAKE (*Rhinocheilus lecontei*). This snake occurs in all vegetation communities except yellow pine and oak woodland. Long-nosed snakes are usually found crawling about at night in search of food. Occasionally they may be found crossing desert roads at dusk or early morning.

Long-nosed snakes resemble the mountain

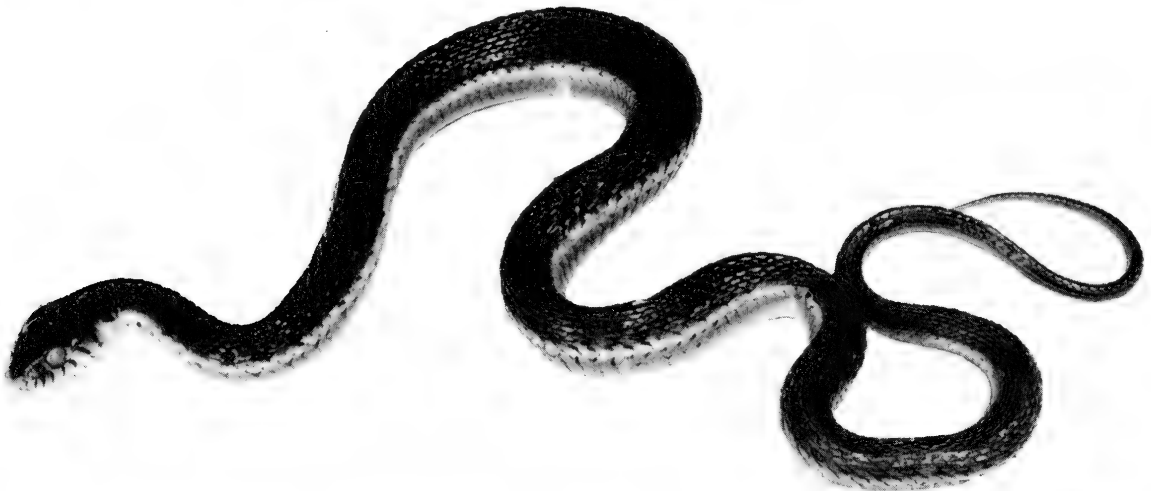


WESTERN LONG-NOSED SNAKE, *Rhinocheilus lecontei*

(photograph courtesy of San Diego Zoo)

king snake to some extent, in having red and black bands present on the body with some faint indications of white bands present on either side of the black band. However, the belly is usually white and unmarked in long-nosed snakes, while mountain king snakes have the body bands meeting across the belly. The caudals (scales beneath the tail) are in one row in long-nosed snakes.

Adult long-nosed snakes reach 2 to 3 feet in length; and feed upon small mammals, insects, lizards, and other snakes. The clutch size ranges from 5 to 9 eggs and are usually laid in June. Young appear in late August and from this, we assume the incubation period to be about 80 to 90 days.



TWO-STRIPED GARTER SNAKE, *Thamnophis couchi*

(photograph by Mike Hatchimonji)

TWO-STRIPED GARTER SNAKE (*Thamnophis couchi*). The two-striped garter snake is found in the oak-woodland community, especially along the streams. This snake is

principally semi-aquatic, but may be found wandering some distance from water.

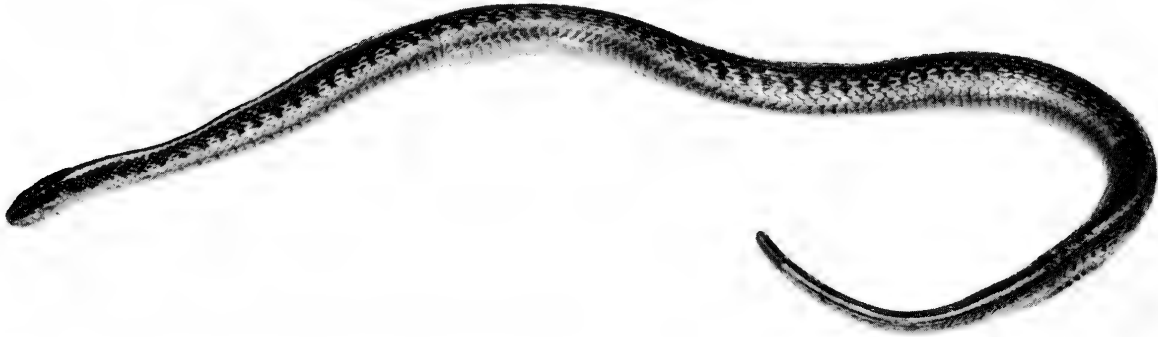
This garter snake is recognized by having keeled scales, less than 29 rows of scales at

mid-body; no mid-dorsal stripe; no red between scales on sides of body; and two well-defined light colored lateral stripes. The belly is buff or olive with black marks along the edge of the belly scales.

The two-striped garter snake bears its young alive, the number of young ranges from

15 to 25. Adult snakes are about 2 feet in length, and probably breed in the late spring. Young appear to be most numerous in July.

Food consists of a wide variety of items: fish, frogs, tadpoles, toads, fish eggs, tree frogs, and earthworms.



(photograph by Mike Hatchimonji)

RED-SIDED GARTER SNAKE, *Thamnophis sirtalis*

RED-SIDED GARTER SNAKE (*Thamnophis sirtalis*). The red-sided garter snake is found in the oak woodland and chaparral communities of our area. However, it is apparently rare for there are only two known records of its occurrence in the Los Angeles area.

The red-sided garter snake is similar to the two-striped garter snake in general appearance. However, it has red between the scales on the sides of the body, a broad, bright yel-

low stripe down the middle of the back, and one light colored stripe on the side of the body. Adults range from 18 inches to over 4 feet in length.

Like the two-striped garter snake, the red-sided garter snake bears its young alive, the number variable, usually 5 to 15. The young are usually born in July or August.

Food consists of fish, insects, earthworms, and various kinds of frogs and toads.



(photograph courtesy of San Diego Zoo)

SPOTTED NIGHT SNAKE, *Hypsiglena ochrorhyncha*

SPOTTED NIGHT SNAKE (*Hypsiglena ochro-rhyncha*). The night snakes are found in the drier part of the chaparral, and in the piñon-juniper and joshua tree forest communities. These snakes are secretive, usually under boulders, rock slabs or in burrows during the day and forage about at night.

Spotted night snakes are recognized by their small size (adults 12 to 18 inches), elliptical pupil, single anterior temporal scale, presence of a loreal, smooth scales, and a divided anal plate. Their coloration consists of a series of small, brownish mid-dorsal

spots, that alternate with a lower secondary series of smaller spots, that in turn alternate with another lower row of smaller spots. The belly is flesh or white in color. The head is usually brownish with a dark line behind each eye that often joins a spot on either side of the neck. There are usually one to three spots on the neck.

This snake lays about 3 to 12 eggs in the spring of the year; incubation varies from 55 to 75 days. Food consists of various kinds of lizards, insects, centipedes, and frogs. The saliva is considered as mildly toxic, but toxic enough to kill frogs and lizards.



BLACK-HEADED SNAKE, *Tantilla planiceps*

(photograph courtesy of San Diego Zoo)

BLACK-HEADED SNAKE (*Tantilla planiceps*). Black-headed snakes are usually found in the chaparral and oak-woodland communities, beneath boards, logs, rocks, and various other kinds of debris.

The California race of this species (*T. p. eiseni*) is easily distinguished from other snakes in the area by its small size (adults, 10-15 inches), smooth scales, divided anal plate, no loreal scale; and a black head bordered posteriorly by a faint white collar. The black of the head often reaches the throat and sometimes crosses the latter. The body is usually unicolored light tan to brown, the belly red or rose colored.

The adults are active from February to September. The females probably lay their eggs in early spring, and the eggs hatch in 60 to 90 days. There is no information on the number of eggs laid by this species; but from information on other species of the genus in

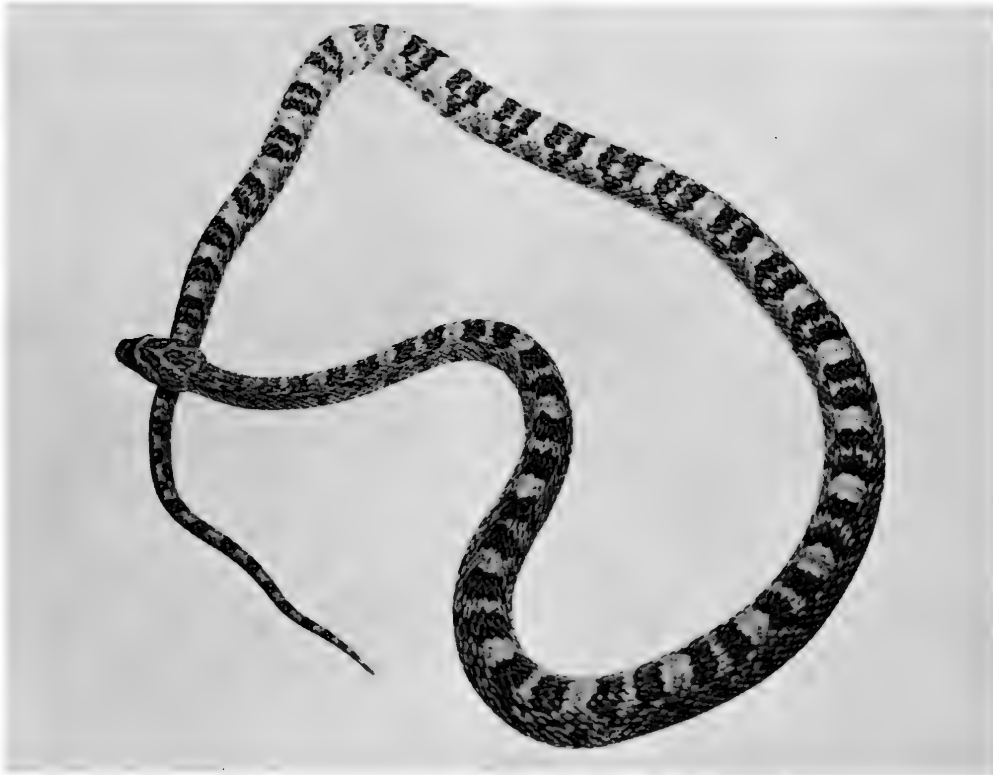
North America the clutch size is probably 1 to 4 eggs.

Food consists chiefly of earthworms, centipedes, soft-bodied insects, and spiders.

CALIFORNIA LYRE SNAKE (*Trimorphodon vandenburghi*). The lyre snake is known to occur in the chaparral community of this area, where it is most often found associated with large granite outcroppings and boulders.

This snake is usually distinguished from other snakes in the area by its elliptical pupil; a lyre-shaped pattern on the top of a large, blunt head; smooth scales, single anal plate, and two or more loreal scales. The color pattern consists of 28 to 43 brown body blotches, each blotch usually split by a light colored (cream or white) transverse bar.

Adults reach 2 to 4 feet in length. The saliva of lyre snakes is considered mildly toxic to humans, and fatal to small rodents, lizards,



CALIFORNIA LYRE SNAKE, *Trimorphodon vandenburghi*

(photograph courtesy of San Diego Zoo)

and frogs. The clutch size is about 12 eggs. The eggs are probably laid in the spring and hatch in late summer (60 to 90 days).

Food consists of small mammals (bats and

mice), lizards, such as granite night lizards, ground geckos, leaf-toed geckos, side-blotched and crevice lizards. Occasionally amphibians are eaten.



SIDEWINDER RATTLESNAKE, *Crotalus cerastes*

(photograph courtesy of San Diego Zoo)

SIDEWINDER (*Crotalus cerastes*). The sidewinder is found only in the joshua tree forest community of the Los Angeles area.

The sidewinder is distinguished from other rattlesnakes of our area by the horn-like scales over the eyes. Sidewinders are usually small, 18 to 30 inches in length, and are normally found associated with sand dunes, sandy washes, and sandy flats in desert areas. They are usually colored like the sand; white, tan or beige. There is usually a mid-dorsal row of small grayish or yellowish brown spots that contrast to the ground color.

Sidewinders are usually active at night dur-

ing the hot summer months, but may be found moving about during the day during the spring and fall. Breeding takes place in April and May, and 5 to 16 young are born about 155 days later, usually in September or October.

Food consists of pocket mice, kangaroo rats, lizards of several varieties, and occasionally insects and birds.

All rattlesnakes are considered dangerous and small ones like the sidewinder are no exception. Even the young of rattlesnakes are dangerous. They are equipped with the same armory as the adult, but in smaller size and quantity.



MOJAVE RATTLESNAKE, *Crotalus scutulatus*

(photograph courtesy of San Diego Zoo)

MOJAVE RATTLESNAKE (*Crotalus scutulatus*). The mojave rattlesnake is found only in the joshua tree forest community of our area.

A mojave rattlesnake is distinguished from the sidewinder by the absence of the horn-like projections over the eyes; darker colors, large body blotches, and larger size. They differ from the Pacific rattlesnake in having alternating light and dark rings on the tail contrasting with the body color and color pattern, and usually only two scales between the upper eye shields.

Adults range between 2 to 4 feet in length,

and their basic color usually varies from greenish-gray to greenish-brown. The dorsal pattern consists of 27 to 44 diamond or rhomboid shaped markings that vary in color from light brown to reddish brown, outlined with white scales. Breeding takes place in March and April. Gestation is approximately 160 to 175 days, with 5 to 13 young being born in September or October.

Food items consist principally of various kinds of small rodents, but occasionally lizards and other snakes are eaten.

Mojave rattlesnakes are considered the

most dangerous rattlesnake in the west, principally because the effects of the venom are difficult to treat.

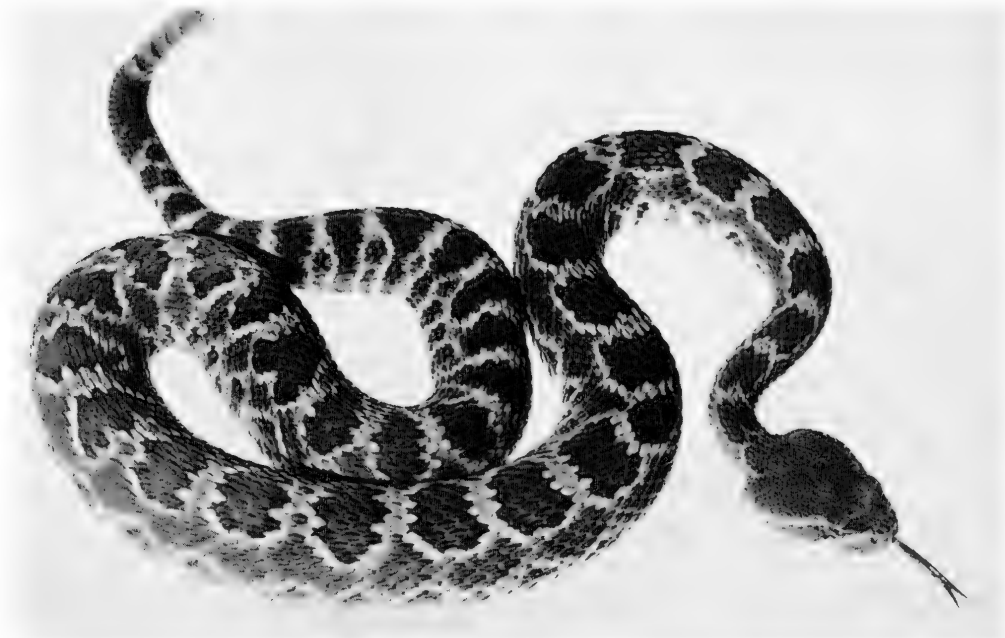
PACIFIC RATTLESNAKE (*Crotalus viridis*). The Pacific rattlesnake is found in all of the vegetation communities of our area. It is the rattlesnake most often encountered by people on hikes and picnics, and produces the most rattlesnake bites in our area. It may be found at sea level or at the top of a mountain 10,000 feet in elevation.

Pacific rattlesnakes are distinguished from sidewinders in the same manner as mojave rattlesnakes. It differs from the mojave rattlesnake in having more than two scales between the upper eye shields; square black

blotches on back with dark gray or brown ground color, head usually dark brown to black, tail rings usually blend with body color.

Adults are 2 to 4 feet in length, and breed from March to mid-May; gestation is approximately 155 days, with 2 to 16 young being born in September and October. Food consists of mice, rabbits, squirrels, rats, lizards, and occasionally quail, chicken, turkey, insects and frogs.

As with other rattlesnakes, the Pacific rattlesnake is dangerous and is especially abundant in the foothills and canyons of the Los Angeles area during the summer months. Always check your camp or picnic grounds before allowing your children to play.



PACIFIC RATTLESNAKE, *Crotalus viridis*

(photograph courtesy of San Diego Zoo)

INDEX TO SCIENTIFIC AND COMMON NAMES

Scientific Names

AMPHIBIANS

Frogs and Toads

- Bufo, boreas, 12, 24, 25
- microscaphus, 12, 24, 25
- Hyla, californiae, 12, 25, 26
- regilla, 12, 26, 27
- Rana, aurora, 12, 26, 28
- boylei, 12, 27, 28
- catesbeiana, 12, 27, 29
- mucosa, 12, 27, 29
- pipiens, 12, 29
- Scaphiopus, hammondi, 12, 24

SALAMANDERS

- Aneides, lugubris, 12, 20
- Batrachoseps, attenuatus, 12, 21
- pacificus, 12, 21, 22
- Ensatina, eschscholtzi, 12, 21
- Taricha, torosa, 12, 20

REPTILES

Lizards

- Anniella, pulchra, 15, 47
- Callisaurus, draconoides, 16, 37, 38
- Cnemidophorus, tigris, 15, 45, 46
- Coleonyx, variegatus, 15, 36
- Crotaphytus, collaris, 16, 38, 39
- wislizeni, 16, 39, 40
- Dipsosaurus, dorsalis, 16, 36
- Eumeces, gilberti, 16, 44, 45
- skiltonianus, 16, 45
- Gerrhonotus, multicarinatus, 16, 46
- Klauberina, riversiana, 15, 42, 43
- Phrynosoma, coronatum, 16, 42
- platyrhinos, 16, 42, 43
- Sauromalus, obesus, 16, 37
- Sceloporus, graciosus, 16, 41
- magister, 16, 39, 40
- occidentalis, 16, 40
- Uma, scoparia, 16, 38
- Uta, stansburiana, 16, 41
- Xantusia, vigilis, 15, 43, 44

SNAKES

- Arizona, elegans, 17, 50
- Coluber, constrictor, 18, 51
- Crotalus, cerastes, 18, 59, 60
- scutulatus, 18, 60
- viridis, 18, 61
- Diadophis, punctatus, 17, 54
- Hypsiglena, ochrorhyncha, 17, 57, 58

- Lampropeltis, getulus, 17, 54, 55
- zonata, 17, 55
- Leptotyphlops, humilis, 16, 49
- Lichanura, roseofusca, 16, 49
- Masticophis, flagellum, 17, 52
- lateralis, 17, 52, 53
- Pituophis, melanoleucus, 18, 50, 51
- Rhinocheilus, lecontei, 17, 55, 56
- Salvadora, hexalepis, 17, 53
- Tantilla, planiceps, 17, 58
- Thamnophis, couchi, 18, 56
- sirtalis, 18, 57
- Trimorphodon, vandenburghi, 17, 58, 59

TURTLES

- Caretta, caretta, 14, 33
- Chelonia, mydas, 14, 32
- Clemmys, marmorata, 14, 31, 32
- Dermochelys, coriacea, 14, 32, 33
- Eretmochelys, imbricata, 14, 33, 34
- Gopherus, agassizi, 16, 31
- berlandieri, 34
- Lepidochelys, olivacea, 14, 33, 34
- Terrapene, sp., 34

Common names

Frogs and Toads

- Frog, Bull, 12, 27, 29
- Leopard, 12, 29
- Speckled, 12, 27, 29
- Red-legged, 12, 26, 28
- Yellow-legged, 12, 27, 28
- Treefrog, California, 12, 25, 26
- Pacific, 12, 26, 27
- Toad, Arroyo, 12, 24, 25
- California, 12, 24, 25
- Western Spadefoot, 12, 24

SALAMANDERS

- Newt, California, 12, 20
- Salamander, Arboreal, 12, 20
- Red, 12, 21
- Slender, 12, 21
- Worm, 12, 21, 22

LIZARDS

- Chuckwalla, 16, 37
- Gecko, Banded, 15, 36
- Iguana, Desert, 16, 36
- Lizard, Alligator, 16, 46
- Coastal Whip-tail, 15, 45, 46
- Desert Horned, 16, 42, 43
- Desert Spiny, 16, 39, 40

Leopard, 16, 39, 40
Mojave Sand, 16, 38
San Clemente Night, 15, 42, 43
San Diego Horned, 16, 42
Side Blotch, 16, 41
Silvery Legless, 15, 47
Southern Sagebrush, 16, 41
Western Collared, 16, 38, 39
Western Fence, 16, 40
Yucca Night, 15, 43, 44
Zebra-tailed, 16, 36
Skink, Gilbert's, 16, 44, 45
Western, 16, 45

SNAKES

Boa, California Rosy, 16, 49
Racer, California Red, 17, 52
California Striped, 17, 52, 53
Yellow-bellied, 18, 51
Rattlesnake, Mojave, 18, 60
Pacific, 18, 61
Sidewinder, 18, 59, 60

Snake, California Black-headed, 17, 58
California King, 17, 54, 55
California Lyre, 17, 58, 59
Glossy, 17, 50
Gopher, 18, 50, 51
Long-nosed, 17, 55, 56
Mountain King, 17, 55
Patch-nosed, 17, 53
Red-sided Garter, 18, 57
Ring-necked, 17, 54
Spotted-Night, 17, 57, 58
Two-striped Garter, 18, 56
Western Worm, 16, 49

TURTLES

Sea Turtles, Green, 14, 32
Hawksbill, 14, 33, 34
Loggerhead, 14, 33
Pacific Leatherback, 14, 32, 33
Ridley, 14, 33, 34
Tortoise, Desert, 14, 31
Turtle, Pacific Pond, 14, 31, 32

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